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A STUDY OF THE SINGING OF OUR BIRDS.

BY EUGENE P. BICKNELL.

(Continued from p. 140.)

***Anthus pensylvanicus* (Lath.) Thienem.* AMERICAN
TITLARK:**

EVERY autumn, late in September or early in October, Titlarks appear in restless flocks, flitting about the brown fields and salt meadows, the quick double-note of many individuals sounding in agreeable consonance when the flocks are on the wing.

Before the present year I never knew them to occur in the spring, but this season they were present in large flocks through the greater part of April, first appearing on the 3d. On the afternoon of the 20th, I was quite sure I heard them sing — some short trills, sometimes broken into separate notes, certainly came from a flock of Titlarks in a large tulip tree standing alone in a wide field. Though the songs of Robins and Meadow Larks confused my hearing, before the flock took wing I heard enough to satisfy me that the Titlark does sometimes sing while it is with us on its spring migration.

* Cf. Stejneger, Auk, Vol. I., pp. 167, 168.

Mniotilta varia. BLACK-AND-WHITE CREEPING WARBLER.

With this species, singing continues from its arrival in late April until the end of June. In some years I have not heard its song at all in July; in other years it sings occasionally up to the end of that month. The second song-period begins about the middle of August (9th to 22nd), and may last for a few days only, or for over two weeks; concluding dates fall between August 18 and 28. An exceptional date for song is September 23, 1879, when one of these birds was heard to sing perfectly several successive times. Final departure occurs five or six weeks after the cessation of song.

Helminthotherus vermiculus. WORM-EATING WARBLER.

Commonly remains in song after its arrival until the second week of July. Sometimes singing ceases a little earlier than this; again, in other years, songs are to be heard into the third week of the month.

The second song-period of this Warbler I can speak of only from one season's experience. On July 10, 1881, several of these birds were silently inhabiting a small tract of woodland, their first season of song having passed; here, on August 14, and again on the 21st, they were found in fine plumage and in full song.

The songs of no other three birds known to me are more alike than those of the Worm-eating Warbler, the Chipping Sparrow, and the Slate-colored Snowbird.

Helminthophila pinus (L.) Ridgw. BLUE-WINGED YELLOW WARBLER.

My data relating to the ending of the first song-period, in the case of those of our summer birds which earliest become silent, are less complete than I could wish; for experience had to teach me that observation which would discover the time when several species left off singing must begin before the middle of June.

The Blue-winged Yellow Warbler is perhaps the first of our summer birds to withdraw from the feathered choir. After its arrival in early May, scarcely a month elapses before singing has begun to wane; and it is not often continued after the middle of

June. Absence about this time in several recent years has interfered with my observations, but attentive visits to favorite haunts of the species in the last week of several Junes failed to show that it had not then become silent. Sometimes, indeed, it appears to cease singing soon after the end of May; again it may continue intermittently nearly to the end of June, and I have recorded a few isolated dates of song in early July.

A supplementary song-period occurs in August, usually about the middle of the month; beginning, according to my records, August 5 to 15, and ending August 18 to 24. Though the true spring song is then recovered, it is largely superseded by a markedly different song, which seems to be especially characteristic of the later season.

I have heard both songs succeed one another from the same bird. Representing the spring-song as *Ce-e-e-e—ker-r-r-r-r-r*, the later song would compare somewhat as follows: *Ker-r-r-r—kik-kik-kik-kik*. An approach to this song is sometimes noticeable towards the end of June; and the only songs of the species that I ever heard in July were much like it. In one season its song was not infrequent during the spring.

At the time of the resumption of singing in mid-August, before the species has come into possession of its full powers, I have sometimes heard some singular vocalization from it—a series of low, disconnected notes, unrecognizable as being from this species, sometimes, however, ending with the sharp *Kik, kik, kik, kik*, of the later song. This song sometimes strikingly suggests that of the Nashville Warbler.

At the time of this strange vocalism I have found the species completing a renewal of plumage, but with many feathers still in active growth. A little later, when singing is regularly resumed, the bird appears in its new attire, which is of a silken beauty, with even fresher and brighter colors than in the spring.

In view of the fact that hybridization seems to be established among certain species of the group to which this Warbler belongs, the above noted variations in song and time of singing may be due to other than merely individual and seasonal causes.

**Helminthophila ruficapilla (Wils.) Ridgw. NASHVILLE
WARBLER.**

Sings regularly on its spring migration, but I have never heard it in the fall.

Helminthophila peregrina (Wils.) Ridgw. TENNESSEE
WARBLER.

The transient presence of this species, in the upper foliage of the woodland in May, is usually revealed by its attractive song. In the autumn it passes in silence.

Compsothlypis americana (L.) Cab.* BLUE YELLOW-
BACKED WARBLER.

A constant songster on its spring migration, but ordinarily silent in the fall, unless individuals sometimes cause exceptions to the rule. I feel quite positive of having heard a faint song on September 18, 1881, from one of a small party of these birds; but it was not repeated, and I could not verify my conviction. A little farther north, however, the species does sing on its return migration; for I am told by Dr. E. A. Mearns that, near West Point, he has sometimes found it in full song in the autumn.

The Blue Yellow-backed Warbler has two different songs. In one the notes coalesce into a fine insect-like trill; in the other four similar notes are followed by four others, weaker and more quickly given.

This species arrives in the fall in full plumage, and somewhat fat. The color of its fat is a very pale sulphury, in contrast to that of other species, as the Nashville Warbler or the Redstart, in which the fat is more opaque and of an orange or reddish color.

Dendroeca aestiva. SUMMER WARBLER.

Sings from its arrival in late April through July, but usually with diminished frequency toward the end of the month, although in some years it continues in full song nearly until mid-August. Ordinarily singing ceases in the second week of August; rarely earlier, but sometimes later. Extreme dates are August 4, 5, and 9, and August 18 and 19. This is the season of the bird's departure.

* Cf. Stejneger, Auk, Vol. I, pp. 169, 170.

**Dendrœca cœrulescens. BLACK-THROATED BLUE
WARBLER.**

Passes by in full song in May. Though usually silent on its migration in the autumn, it is sometimes to be numbered among the birds which sing at that season. On September 22, 1878, a morning when birds were abundant and active, and a number voiceful, including the House Wren, Blue-headed and White-eyed Vireos, Swamp and Song Sparrows, several of these Warblers were observed in fine plumage and full song. It arrives in autumn with renewed plumage and usually with little fat.

Dendrœca coronata, Yellow-rumped Warbler; *D. maculosa*, Black-and-yellow Warbler; *D. pennsylvanica*, Chestnut-sided Warbler; *D. castanea*, Bay-breasted Warbler; *D. striata*, Black-poll Warbler; *D. blackburniæ*, Blackburnian Warbler; *D. virens*, Black-throated Green Warbler; *D. palmarum hypochrysea*, Yellow Red-poll Warbler; *D. tigrina*, Cape May Warbler.

All of these spring and autumn migrants sing as they pass north, but are silent when they return.

Siurus auricapillus. OVEN-BIRD.

Toward the end of June the song of this bird, which has been so constantly accentuated through our woodland for two months, becomes less frequent, and though heard into July, comparatively few individuals sing through the month. In some seasons I have missed it after the first week, but in others have heard it with some regularity through the second week, with rarely a chance song in the week following; July 23 is my latest date.

The second song-period occurs in August, and is transient and irregular; with varying seasons shifting a little to either side of the middle of the month. Rarely it continues imperfectly into September. August 9 and September 5 constitute extreme boundary dates, but at neither limit were the songs perfect. As if the power of song was gradually regained at the maturity of the new plumage, the time of silence which follows the breeding season, accompanying the moult, is finally interrupted, not with

a sudden recommencement of song, but gradually with the cessation of feather-growth. About the middle of August a few notes suggestive of their song may now and then be heard about woody tracts where for weeks the birds have conducted themselves with silence and seclusion. These preliminary notes are hesitating and faintly uttered. On succeeding days they become louder and more extended, suggesting the beginning of the true song, but there is an uncertainty about their delivery which seems to betray either inability or lack of confidence. Later, a sudden bold effort may be made, when the bird follows the successively higher notes of its true song until a point is attained beyond which it seems incapable of proceeding, and abruptly discontinues. But after a brief season of such efforts and failures the true song is attained. Though the apparent inability of the bird to sing may result from lack of vigor after the moult, the manner in which song is regained suggests vocal disability as a not improbable cause of the preceding and succeeding silence. In the supplementary song-period, song is to be heard only for a few days and in the early morning hours, and seems never to reach the precision and vigor of the true spring song.

The ordinary song of the Oven-bird, but for its inseparable association with the quiet recesses of summer woods, would certainly seem to us monotonous and commonplace; and the bird's persistent reiteration of this plain song might well lead us to believe that it had no higher vocal capability. But it is now well known that, on occasions, as if sudden emotion carried it beyond the restrictions that ordinarily beset its expression, it bursts forth with a wild outpouring of intricate and melodious song, proving itself the superior vocalist of the trio of *pseudo*-Thrushes of which it is so unassuming a member. This song is produced on the wing, oftenest when the spell of evening is coming over the woods. Sometimes it may be heard as an outburst of vesper melody carried above the foliage of the shadowy forest and descending and dying away with the waning twilight.

Siurus nævius. SMALL-BILLED WATER-THRUSH.

In full song while passing in the spring. On its return visit it is ordinarily silent, though probably not invariably so. The song of a Water-Thrush heard in the evening of August 25, 1879, I felt very sure was of this species.

Siurus motacilla. LARGE-BILLED WATER-THRUSH.

My notes on this species, although incomplete, seem to indicate two song-periods; the first ending in June or early in July; the later confined to a brief period of late July or early August. I do not regularly hear its song after June has well advanced, but as the birds are not common near me, I have not had opportunity for full observation. Before the end of July the birds seem to feel the migrating impulse and begin to grow restless. They may then be found in places which have not known them through the breeding season, and songs, often of full continuance and power, may again be heard. My record gives July 22 and August 4 as limiting dates for the brief second song-period.

Geothlypis trichas. MARYLAND YELLOW-THROAT.

There is probably a dual season of song with this species, which is obscured by variation in the singing-time with individuals. Though it usually remains in song all through the summer, in the last weeks of July and the first of August singing is less general and less spirited than either before or after. Often after the middle of August songs will be louder and more frequent than for weeks previously. Singing may cease at any time from about the middle of August to the end of the month, or first part of September (August 12 and 19, to September 3, 4, 11 and 13); but September singing is unusual. The moult takes place in August, and is completed in September, when the birds become fat.

With this species the habit of song-flight is well developed. The little black-masked bird seems to believe it necessary that singing should continue through the whole course of the flight, and as the ordinary song, with which it begins, comes to an end while yet the bird is in the air, the time is filled out by a disarranged medley of notes very different from its usual utterance. I have not often seen these performances before mid-summer, and the August songs of the species are most frequently those which accompany these flights, which are oftenest indulged in the late afternoon or towards evening. This species, and the Oven-bird, and Yellow-breasted Chat appear to be the

only members of the family Mniotiltidae with which the song-flight is a normal and regular habit.

Icteria virens. YELLOW-BREASTED CHAT.

Regularly up to the middle of July, and sometimes through the third or even fourth week of the month, this species continues in song. Imperfect songs may sometimes be heard in early August, but rarely later, although my record extends to August 14. Dates of fairly perfect final songs range between July 15 and August 1. After the cessation of song the singular *chat* note of the species may yet be heard about the shrubbery which it still closely haunts; but even this seems to be discontinued before its departure.

This eccentric bird is perhaps our only species which regularly sings at night. Where Chats abound, it is a common experience to hear at one time several singing with full vigor at most untimely hours; and from my window I have listened to such serenades on many successive nights. They sing both when the moon is bright and when the night is clear and dark; their odd notes interrupting the midnight stillness with peculiar effect. Thus have I heard them into the small hours.

Myiodioctes mitratus. HOODED WARBLER.

The first song-period of this species seems rarely to pass early July—latest dates, July 10 and 15. Perfect songs heard in the fourth week of August locate the second song-period. At this time the plumage is approaching maturity.

As has before been reported, this species possesses two different songs, or perhaps more truly, two distinct variations of one. These differences, however, are neither individual nor seasonal, but seem to come within the normal vocal compass of the species, both songs being used indiscriminately by the same bird. This fact has been noted by Rev. J. H. Langille in the 'Bulletin of the Nuttall Ornithological Club' for April, 1882 (pp. 119, 120), whose experience in its discovery was very similar to my own. I well remember with what interest and excitement I followed one of the songs of this bird about the woods on many different days, expecting to make a new bird acquaintance, and with what sur-

prise and chagrin I discovered that it proceeded from the Hooded Warbler, which had been constantly about me, but which I had never suspected to possess such versatility.

**Myiodioctes canadensis. CANADIAN FLYCATCHING
WARBLER.**

**Myiodioctes pusillus. BLACK-CAPPED FLYCATCHING
WARBLER.**

Both these species are in full song while passing in the spring, but I have never heard either sing on the opposite migration in the autumn. Then they appear with perfected plumage and usually with considerable fat.

Setophaga ruticilla. AMERICAN REDSTART.

In some years I have found this species songless soon after the beginning of July. In seasons when it thus early becomes silent singing is resumed in the first part of August, and continues for two or three weeks. But the period of July silence is inconstant, and sometimes singing is little interrupted through the month. When this is the case singing seems to cease finally at the end of the month or early in August, and is followed by no supplementary song-period. It is not probable that these indications of my records have resulted from incomplete observations; for records of the time of singing and silence of other birds go to show that the singing of a species in what is normally its central time of silence is at the expense of later song; and that the supplementary song-period is sometimes thus wholly sacrificed. My dates of last songs are limited by the third week of August, except in one exceptional instance when one of the birds was heard to sing on September 5. In the summer a song is commonly heard from the Redstart which is weaker and otherwise different from the normal, and which is probably produced by immature males.

Vireo olivaceus. RED-EYED VIREO.

A most untiring vocalist, maintaining song almost uninterrupted through the summer, and only relinquishing it in September—from the 1st to the 10th. My records fail to show any regular time of silence before this; but singing is at a low ebb about

mid-August, and in seasons of heat and drought almost fails at that time. Towards the end of the month, however, there is usually an accession of vocal energy.

With individuals of no other one of our birds is singing so continuous as with the Red-eyed Vireos. They are often to be heard in full song for a great part of the day about one spot in the woods or even on the same tree. I have watched single birds singing for many minutes uninterruptedly; that is, with no rests save the slight natural pauses between the different sets of notes that make up the song.

In August while the species is still in song, it is undergoing a change of plumage; this is consummated in September, when the bird soon becomes fat. I have shot individuals in August which, though in an active stage of feather-growth, were nevertheless in song.

Vireo gilvus. WARBLING VIREO.

In favorable seasons this Vireo sings through May, June, July, and the first half of August. But, whether it be because of unfavorable conditions or from scarcity of birds, in some years its song is so interrupted in July that during most of the month singing is the exception rather than the rule.

Singing may cease at any time during the first two weeks of August: later in the month the species is not often heard from, although I have a few dates of song in the third and fourth weeks. The true second song-period seems not to begin before the last days of the month, or September, when for a week or more the species may be generally in song. Latest dates for singing are September 14 and 18.

(To be continued.)

THE BREEDING HABITS OF THE PECTORAL SANDPIPER (*ACTODROMAS MACULATA*).

BY E. W. NELSON.

DURING my residence in Alaska I found this Sandpiper — the *E-a-böök-ki-äg-i-shü-ä-gük* of the natives of Alaska — to be

extremely common at the mouth of the Yukon River, where the low grassy flats afford it a much frequented breeding ground.

It arrives on the shores of Bering's Sea, near St. Michael's, from the 15th to the 25th of May, and, after lingering about wet spots where the green herbage just begins to show among the universal browns of the tundra, they pair and seek nesting places. It is a common but never very abundant bird near St. Michael's during both migrations, but it is rare there in the breeding season. This is difficult to account for, as the bird is extremely common at the latter period on the low flat islands in the Yukon Delta not far to the south, and it is also common at other points on the coast. Dall found it at Plover Bay, East Siberia, and I found it common on the north coast of Siberia, the last of July, 1881, where, like the Sharp-tailed Sandpiper, it was evidently upon its breeding ground. Flocks of these Sandpipers arrive on the east coast of Bering's Sea before the ground is entirely free from snow, and during September, in company with *A. acuminata*, are numerous about small brackish pools and the banks of tide creeks. October, with its frosty nights and raw unpleasant days, soon thins their ranks, until by the 10th or 12th the last one has gone.

The last of May, 1879, I pitched my tent on a lonely island in the Yukon Delta and passed the several following weeks in almost continual physical discomfort, owing to the rain and snowstorms which prevailed; however, I look back with pleasure upon the time passed here among the various waterfowl, when every day contributed new and strange scenes to my previous experience.

The night of May 24 I lay wrapped in my blanket, and from under the raised flap of the tent looked out over as dreary a cloud-covered landscape as can be imagined. The silence was unbroken save by the tinkle and clinking of the disintegrating ice in the rivers, and at intervals by the wild notes of some restless Loon, which arose in a hoarse, reverberating cry and died away in a strange gurgling sound. As my eyelids began to droop and the scene to become indistinct, suddenly a low, hollow, booming note fell upon my ear and sent my thoughts back to a spring morning in Northern Illinois, and to the loud vibrating tones of the Prairie Chicken. Again the sound arose nearer and more distinct, and with an effort I brought myself back to the reality

of my surroundings and, rising upon elbow, listened. A few seconds passed and again arose the note. A moment later and, gun in hand, I stood outside the tent. The open flat extended away on all sides with apparently not a living creature near. Once again the note was repeated close by and a glance revealed its author. Standing in the thin grass, ten or fifteen yards from me, with its throat inflated until it was as large as the rest of the bird, was a male Pectoral Sandpiper. The succeeding days gave me opportunities to observe the bird, as it uttered its singular notes under a variety of situations and at various hours of the day or during the light Arctic night. The note is deep, hollow, and resonant, but at the same time liquid and musical, and may be represented by a repetition of the syllables *tōō-ū*, *tōō-ū-tōō-ū*, *tōō-ū*, *tōō-ū*, *tōō-ū-tōō-ū-tōō-ū-tōō-ū*.

Before the bird utters these notes it fills the æsophagus with air to such an extent that the breast and throat are inflated to twice or more the natural size, and the great air-sac thus formed gives the peculiar resonant quality to the note.

The skin of the throat and breast becomes very flabby and loose at this season, and its inner surface is covered with small tubular masses of fat. When not inflated the skin, loaded with this extra weight, and with a slight serous effusion which is present, hangs down in a pendulous flap or fold, exactly like a dewlap, about an inch and a half wide. The æsophagus is very loose and becomes remarkably soft and distensible, but is easily ruptured in this state, as dissection revealed. The male may frequently be seen running along the ground close to the female, its enormous sac inflated and its head drawn back and the bill pointing directly forwards; or, filled with spring-time vigor, the bird flits with slow but energetic wing-strokes close along the ground, its head raised high over the shoulders, and the tail hanging almost directly down. As it thus flies, it utters a succession of the booming notes adverted to above, which have a strange ventriloquial quality. At times the male rises twenty or thirty yards in the air and, inflating its throat, glides down to the ground with its sac hanging below; again he crosses back and forth in front of the female, puffing out his breast and bowing from side to side, running here and there as if intoxicated with passion. Whenever he pursues his love-making his rather low but far-reaching note swells and dies in musical cadence, and

forms a striking part of the great bird chorus rising at that season in the North.

The Eskimo name indicates that its notes are like those of the walrus, hence the term they give it — 'walrus talker.'

Since my return from the North my attention has been called to a note in the 'Proceedings' of the Zoological Society of London (1859, p. 130), where it appears that Dr. Adams noted the peculiar habits of this bird above detailed when, in 1858, he passed a season at St. Michael's.

These Sandpipers were beginning to nest when I left the Yukon Mouth, and in one instance a female was seen engaged in preparing a place for her eggs in a tuft of grass; but the spot was abandoned before the eggs were laid.

In autumn its habits in the Far North are precisely those so familiar to all who know the bird in its southern haunts.

THE MIGRATION OF OUR WINTER BIRDS.

BY S. W. WILLARD.

IN the October (1883) number of the 'Bulletin of the Nuttall Ornithological Club' it is asked, "Why do Owls, Grosbeaks, Crossbills, and some other northern birds come south in winter?" Lack of food and extreme cold are stated as being insufficient reasons to explain this movement. As the birds are usually fat when they arrive, they hence cannot have lacked for food farther north. It also states, "the idea that any of these birds feel the cold is not entitled to a moment's consideration." Mr. William Brewster, after quoting the above, attempts to explain the question on the ground that "Birds, like many other beings, are fond of variety." He says: "The truth of the matter probably is, that when their breeding season is over, these birds habitually wander over vast extents of country. If the winter happens to be severe in the north they find a gradual improvement in conditions southward, and naturally, taking this direction, push on until a land of plenty is reached. . . . Thus they come and go, sometimes without apparent regard to conditions which govern the movements of our more regular migratory visitors."

We must acknowledge that birds do not differ so much from other animals as not to have the custom of wandering. The variation in the numbers of our resident species is due, to some extent, to this natural habit, but can this alone be sufficient to explain the movements of our northern birds? Do they breed so late in the season that this flight is taken before the excitement incident to their nesting has subsided, or do they leave their northern homes merely from the ordinary passion for wandering? That there is a subtle incentive to migration inherent in these species seems almost evident; but is this impulse due to reproduction, or is it analogous to the impulse that urges our regular migrants southward on the return of autumn? The latter seems to me the more plausible explanation; for why should this movement take place in the fall, or during the months of November and December, if it were occasioned by a mere desire to wander? Would it not be more natural to find these birds in southern latitudes in September and October, if wandering was the only incentive? During these months the weather is cool and apparently more conducive to long flights than the sharp, benumbing cold of later months. But this is not the case. We find these birds here just prior to or during the first genuine cold spell in the fall, which, in Northern Wisconsin, usually occurs about November 20. The majority of these visitors appear to remain but a short time, returning seemingly to their northern latitudes, even though the weather still continues cold.

By a systematic study of the avian fauna of Brown and Ontonagon counties,* I have found that the migratory instinct is represented in nearly all of its stages. We find birds that return southward during the fullness of vegetation and abundance of insect life; and species in which this instinct is not so well developed, but which take their departure only when spurred onward by the movements of other migrants, or the lowering of the temperature. Still others are represented in which this instinct is nearly dormant, and which seems only capable of being aroused by intense cold, such as usually occurs during the appearance of the more northern species in southern latitudes.

At the time when the greater part of animal life was confined

* In a paper read before the Wisconsin Academy of Sciences, Arts and Letters, at Madison, Dec., 1883, I arranged the birds of these counties in classes according to their migratory habits, and from this consideration I arrived at the conclusion given in this article.

within the tropics, our northern species were undoubtedly among the prisoners, and, with the throngs of other migrants, acquired the habit of pushing each spring towards the receding barrier, returning in the fall to a more congenial clime. But being a stronger and hardier class, these birds soon became aware that there was for them no necessity for a southern journey as extended as their allies were obliged to take.

Evidently the migratory habit, once so strong, is becoming dormant among some species, and only upon the sudden occurrence of intense cold is it awakened sufficiently to exert any influence whatever over the more rugged northern species.

Exceptional movements certainly occur, but owing to the high ornithological interest and conspicuousness of these northern species — coming at a time when other bird-life is absent — their movements are oftener recorded and are much more noticeable than similar ones among our commoner birds at seasons when each patch of woodland is filled with the notes of its hundreds of feathered occupants.

DESCRIPTION OF A NEW SONG SPARROW FROM THE SOUTHERN BORDER OF THE UNITED STATES.

BY H. W. HENSHAW.

IN 1874 I collected several Song Sparrows in the southern portion of Arizona, which appeared to differ remarkably from those obtained to the northward in various portions of the Great Basin. Being under the impression that these specimens represented merely the extreme degree of variation of the interior race, they were labelled *fallax* and passed by. Since then I have seen other specimens from this region, and especially a series of twenty-one collected, at my request, at Tucson by my friend Mr. E. W. Nelson. From a comparison of all these with the very extensive series of Song Sparrows from the interior of the United States, contained in the National collection and in my own Museum, I am satisfied that there exist two well-defined races in the Great Basin, where hitherto there has been supposed to be but one. One of these is, of course, the *fallax* of Baird. The

other I propose to describe as new. An examination of the type, to ascertain to which form the name *fallax* applies, reveals the fact that the type of *fallax* is from Tucson, and that it represents the fall plumage of what is really the older though least known form. In other words, the name *fallax* is to be restricted to the form inhabiting our southern border—Arizona and New Mexico—leaving the bird of the Great Basin at large outside of Arizona and New Mexico to receive the new name. The following is a description of the form:—

Melospiza fasciata montana, var. nov. MOUNTAIN SONG SPARROW.

♂ *Adult* (No. 11222, Coll. National Museum, Fort Bridger, Utah, June 18): Crown, occiput, rump, and exterior surface of wings umber-brown; crown striped medially with ashy gray; sides of neck, nape, and superciliary stripe ashy; feathers of dorsum black centrally, umber-brown exteriorly, making strongly marked longitudinal streaks; feathers on back margined more or less with gray. Tail-feathers above light umber-brown, much darker along the shaft. Tertiaries margined externally with whitish. Under parts grayish white; breast and sides streaked heavily with dark umber-brown; a heavy sub-malar stripe of same tint.

DIFFERENTIAL CHARACTERS:— *M. montana*. Above umber-brown with margins of feathers gray, giving a strong grayish aspect to the plumage; back streaked with blackish brown; streakings below blackish brown.

M. fallax. Above chiefly bright reddish brown; back streaked with a darker shade of the same; streaks below reddish, *not black*; size smaller.

Fall specimens of *montana* are browner, with the markings generally less distinct, *i. e.*, more diffused. The black streaks of the back are always present.

The geographical limits of *fallax*, as restricted, cannot at present be given. I have seen specimens from Camp Grant and the Gila River, Arizona, while about Tucson it is the common form. It probably occupies in summer almost the whole of Arizona and New Mexico.

Concerning the presence of the two forms about Tucson, Mr. Nelson writes, under date of March 18, that the local race (*i. e.*, *fallax*) had been in full song for over a month, and dissection reveals every evidence of the near approach of the breeding season. The other bird (*i. e.*, *montana*) had already left for the north without singing, and without exhibiting signs of sexual excitement.

It thus appears that about Tucson *montana* is a winter visitant only, while *fallax* is a constant resident.

ANALECTA ORNITHOLOGICA.

Second Series.

BY LEONHARD STEJNEGER.

VI. ON THE PTARMIGANS OF NELSON'S 'BIRDS OF BERING SEA,' etc., ESPECIALLY THOSE BELONGING TO THE GROUP *Attagen* KAUP. *

IN a recent review of Nelson's 'Birds of Bering Sea and the Arctic Ocean' (Auk, 1884, p. 79), Dr. E. Coues makes the following remarks upon the Ptarmigans: —

"The case of the Ptarmigan, as presented by Mr. Nelson, can be understood only by reference to the erratum leaf. One is *Lagopus albus*. Two others (Nos. 78 and 79) are to be treated as one, both being headed '*Lagopus rupestris*, Rock Ptarmigan.' Thirdly comes No. 80, a certain '*Lagopus rupestris occidentalis*, Turner, Atkhan Ptarmigan.' . . . Mr. Nelson's fourth Ptarmigan is headed '*Lagopus alpinus*, Subalpine Ptarmigan,' and is only reported as from Siberia, and upon Nordenskjöld's authority."

Dr. Coues will take no offence when I declare that I cannot "understand the case by reference to the erratum leaf," and that I find it quite comprehensible if, in this case, we only pay no attention whatever to that ominous erratum leaf of the 'Cruise of the Corwin.' In reading Nelson's article about No. 79, *Lagopus rupestris bis*, it is evident that it is written under the supposition that the heading contained a name different from that of *rupestris*, either specifically or subspecifically. We turn now to that famous 'leaf' in order to find the name which ought to distinguish No. 79, the 'Ounalaskan form,' of which "but two specimens in the summer plumage are in existence"; but we will only find there that "through an error the notes under numbers 78 and 79

Attagen* Kaup, Entw. Eur. Thierw., p. 170, 1829 (types *montanus* [= *mutus*] and *islandicus* [= *islandorum*]) (nec Naum. 1833, *quaes* *Tetrastes*; nec *Attagen* Gray, Gen. Birds, III, 668, 1845, *quaes* *Fregata* Briss.; nec *Attagis* Geofr. and Less. 1830) = *Keron* "Montin" Gray, Handl. Birds, II, p. 278, 1870.—Ἄτταγης** Aristot. (IX, 36, 5) a gallinaceous bird, probably *Perdix cinerea*. Lat. *Attagen* Plinius, is *Lagopus muta*, among others.—*Keron* is not used by Montin as a generic or sub-generic term, but is simply the Lappic name appended to *Tetrao* in brackets. In the same manner is the Finnish name for *L. alba*, 'Rehusak,' appended to the systematic name of the latter.

were not placed under a single heading." But if we unite them, the passage referring to the Ounalaskan birds becomes simply meaningless; and under No. 78 is expressly said: "On the Aleutian Islands it [*L. rupestris*, sic stricte!] is represented by forms which *are* mentioned *below*"; whence, therefore, came the 'No. 79,' if it was not originally intended to be a distinct form? We are now justified in asking: What does the phrase on the erratum leaf mean? Was it prepared by Mr. Nelson himself, and does it indicate that he has given up 'No. 79' as a distinct form? Does it mean that "The detailed description of this form will [*not*] be given in the account of the Birds of Alaska, now in course of preparation"? This seems to be the most reasonable supposition; but it ought to have been clearly stated. As the case is, the unlucky erratum leaf only adds to the confusion.

There was no need, however, for Mr. Nelson to cancel 'No. 79' of his list, as this form certainly is distinct and rather easily characterized, and I take great pleasure in naming it

Lagopus rupestris nelsoni,

in honor of its discoverer.

It is remarkable for the rich ferruginous-brown of the upper parts of its *preæstival* plumage, without gray intermixture — in this respect agreeing with *Lagopus ridgwayi* recently described by me from the Commander Islands, it resembling, in fact, the *postæstival* plumage of the latter, being, however, very distinct from its *preæstival* garb. It shares, together with *L. r. athkensis* (Turner), the uniform aspect of the upper surface and the minute blackish vermiculations without crossbars, either black or white, a peculiarity which gives their plumage an appearance similar to the *postæstival* plumage of other forms; but Nelson's bird differs from Turner's in being of a saturated brown color, while the latter is pale grayish suffused with rusty. In both these forms the jugulum and *præpectus* of the *preæstival* plumage are very distinctly and rather regularly transversely barred with black, in contradistinction to the Commander Island species, which has these parts almost uniform black, consequently belonging in the neighborhood of *L. muta* and not of *L. rupestris*.

The type of this new form is No. 93,488, U. S. Nat. Mus., a fine ♂ collected by Mr. E. W. Nelson, on the Island of Unalashka, May 18, 1877.

A detailed description is not thought necessary in this connection, as probably Mr. Nelson's original description will soon be published.

In respect to Nelson's remark about Dall's winter specimen from Unalashka, that the lack of "the black border through the eye appears to be a merely individual character," it may be mentioned, that the specimen in question is labelled '♀,' and consequently is in the normal plumage of the female, which usually lacks the black stripe.

The often-mentioned erratum leaf, however, does not correct a most important typographical error contained in the heading "*Lagopus alpinus*. (81.) Subalpine Ptarmigan"; for it is evident that it ought to be either "*Lagopus alpinus*. (81.) Alpine Ptarmigan," or "*Lagopus subalpinus*. (81.) Subalpine Ptarmigan"; but which of the two it is not possible to tell without turning to Nordenskjöld's original account.

Looking through Nordenskjöld's 'The Voyage of the Vega' (Amer. Ed., 1882, pp. 431-436) we find in his account of the animal life near his winter station, some notes given him by Lieutenant Nordquist (for which consequently the latter gentleman, and not Nordenskjöld, is responsible), and there (p. 433) occurs the following relating to our case: "Of land birds there winter in the region only three species, viz., an owl (*Strix nyctea*, L.), a raven (*Corvus sp.*), and a ptarmigan (*Lagopus subalpina*, Nilss.); the last-named is the most common." From this it would seem as if Mr. Nelson had intended to have No. 81 headed *Lagopus subalpinus* Nilss.; but in that case No. 81 only duplicates No. 77, *Lagopus albus*, of which it is and always has been an unconditional synonym. This is under the supposition that Lieut. Nordquist's determination is correct, which may be seriously doubted;* but if referable to a species of the *Attagen* (or *mutus*) group, his remarks should have been placed under *rupetris*, as it is to the latter form, and not to the true *mutus* (=

*Mr. Nelson, on page 60, accepts a name from the same work without suspecting it to be identical with another bird of his list. Although no description accompanies the statement, that *Sylvia eversmanni* "in June settled on the black deck of the *Vega*," it seems little doubtful, that the bird was *Phyllopleuste borealis* Blas., of which, in fact, *Sylvia eversmanni* Midd. nec Bp. is a synonym. There is, consequently, every reason for uniting Nos. 8 and 9 under the heading of the latter. Of course it is much less likely to be the true *Ph. eversmanni* Bp., which is a synonym of *Ph. trochilus*, a Western Palearctic form occurring not at all as far east as the 'Vega's' winter quarters.

alpina Nilss.)* that the Siberian Tundra Ptarmigan has been referred, while *mutus* is said to occur on the mountains of Southern Siberia only.† It will thus be seen that No. 81 of Nelson's list ought to disappear altogether as a separate heading.

VII. ON SOME CHANGES NECESSARY IN NORTH AMERICAN
AND EUROPEAN ORNITHOLOGICAL NOMENCLATURE, IF
GENERIC APPELLATIONS PREVIOUSLY APPLIED
IN BOTANY BE NOT REJECTED.

A most superficial examination of a list of genera of birds will soon convince us that quite a number of names are in use both in ornithology and botany, while a closer examination shows that some of the ornithological generic names have been dropped and replaced by others because preoccupied in botany.

The following short list, picked up at random while hurrying over an alphabetical index, is evidence enough:—

Acrocephalus,	Dasycephala,	Petrophila,
Aegialites,	Diomedea,	Phaetusa.
Arenaria,	Drymophila,	Platylophus,
Bartramia,	Erythrina,	Polysticta,
Brachyrhamphus,	Glaux,	Prunella,
Calendula,	Hylophila,	Salicaria,
Callicephalus,	Linaria,	Sibia,
Ciconia,	Micropus,	Spathulea,
Citta,	Nectris,	Undina.
Corydalis,	Pallasia,	Vidua,
Corypha,	Passerina,	Wilsonia.
Cyanocephalus,	Peristera,	

Several of these are also preoccupied in other branches of zoology, and are thus altogether out of question, for instance, *Erythrina* and *Pallasia*‡; others have been in unchallenged use since

* Cf. Seehoim's description of two male birds obtained by him on the 22d of July at the Yenisej, in Lat. 71° 1-2° — "the throat and breast are rather paler than the back"— and determined by Prof. Newton to be "most probably *rupestris*," while not belonging to *mutus* (*Ibis*, 1879, p. 148). The similarity of the Siberian bird with *rupestris*, as distinguished from *mutus*, was long ago mentioned by von Middendorf.

† Saunders, *Yarr. Brit. Birds*, 4th ed. III, p. 86.

‡ *Pallasia* was proposed by E. v. Homeyer in 1873 (*J. f. Orn.*, 1873, p. 190) for a genus having *Alauda mongolica* Pall. for type. The group, being mainly characterized by the short secondaries, needs a new name, as that given by v. Homeyer is antedated by *Pallasia* Rob. D. 1830 (a dipt.). I propose to call it *Pterocorys* ($\pi\tau\tau\epsilon\rho\delta\gamma$ = *ala*, $\kappa\omega\rho\delta$ = *galea*).

their creation; others again have had a varying fate, now being rejected, now again accepted, *e. g.*, *Bartramia* (= *Actidurus* Bp.), *Drymophila* (= *Myrmeciza* Gray, 1841) *Linaria* (= *Canabina*), *Passerina* (= *Cyanospiza* Baird, 1858), *Petrophila* (= *Orocetes* Gray, 1840), *Wilsonia* (= *Myiodioctes* Audub., 1839), etc.; while a few have not been revived since first dropped on account of having been preoccupied in botany, three of them having even received new names from their original describer, when he became aware of the fact, *viz.*, *Micropus*, *Cyanocephalus*, and *Corypha*. In endeavoring to find means for creating a stable nomenclature, our rules must be as free as possible from exceptions, and in the present case we have only the choice between two methods: either to accept or to reject all the names preoccupied in botany.

A glance at the above list will show at once that the changes resulting from a rejection of the names already applied in botany would be so radical and affect so many current names, that a choice in that direction must be considered very undesirable.

If we carry the rule out in the other direction, the changes will be less serious.

The first name to be considered then, is

Arenaria BRISS.

which antedates both *Morinella* Meyer and *Strepsilas* Illiger by fifty years (see my paper in *Pr. U. S. Nat. Mus.*, 1882, p. 34). The two North American species would stand as

1. *Arenaria interpres* (Linn.) Vieill.—Turnstone.
2. *Arenaria melanocephala* (Vig.)—Black Turnstone.

Corypha GRAY, 1840;

was changed by the author himself in the following year to *Megalophonous*.

Cyanocephalus BONAP., 1842,

is eight years older than the same author's *Gymnokitta*, the synonymy of which stands as follows:—

1841.—*Gymnorhina* WIED, Reise Nord. Amer. II (p. 21) (*nec* GRAY, 1840).

1842.—*Cyanocephalus* BONAP., Oss. Stat. Zool. Eur. Vert. 1840-41, p. 17 (*nec* Botan.).

1850.—*Gymnokitta* BONAP., Conspl. Av., I, p. 382.

1880.—*Gymnocitta* COUES, Bull. Nutt. Orn. Cl., 1880, p. 98.

The only species belonging to the North American Fauna, is No. 285 of Ridgway's list, and would stand as
Cyanocephalus cyanocephalus (Wied).—Piñon Jay.

Micropus MEY. & WOLF

unfortunately antedates the current name *Cypselus* of Illiger by a year only. Yet, under the supposition above, there is hardly any escape from accepting it.

The synonymy of the genus is as under:—

- 1758.—*Hirundo* LINN. Syst. Nat. ed. 10, I, p. 191 (*part.*).
- 1777.—*Apus* SCOPOLI, Introd. Hist. Nat. p. 483 (*nec* PALL. 1776 *quæ Crust.*).
- 1810.—*Micropus* MEY. & WOLF, Taschb. Deutsch. Vög. I, p. 280 (*nec Botan.*, *nec* SWAINS., 1831).
- 1811.—*Cypselus* ILLIG. Prodri. Syst. Mam. Av. p. 230.
- 1815.—*Brachypus* MEY. Vög. Liv- und Esthl. p. 142. (*nec* SWAINS., 1824).
- 1816.—*Cipselus* VIEILL. Anal. p. 38.

Illiger was very well aware of the two earlier names. Here are his reasons for rejecting them: “Nomina Apus, *Micropus* terminis zoographicis reddenda sunt, quam ob causam nomen Aristotelicum *Cypselus*, quod de nidis in foraminibus absconditis deductum videtur, generi restitui.”

The American species would stand as

R. 349.—*Micropus saxatilis* (Woodh.) [*].

Those of Dresser's List Eur. B., p. 20, as

- 284. *Micropus apus* (Linn.).
- 285. *Micropus affinis* (Gray).
- 286. *Micropus pallidus* (Shelley).
- 287. *Micropus unicolor* (Jard.).
- 288. *Micropus melba* (Linn.).

The last genus of the list is

Wilsonia BONAP.,

which has also been rejected mainly on account of being preoccupied in botany. Dr. Coues (Birds Colorad. Val., p. 323)

[* It seems desirable to adopt for this species Professor Baird's name *melanoleucus* for reasons which will be apparent on reference to page 143 of “Birds of North America” (Vol. IX., Pacific RR. Reports). The name of the White-throated Swift would therefore be *Micropus melanoleucus* (Baird).—R. RIDGWAY.]

remarks that it, besides being preoccupied in botany, is also used in entomology. Its use in the latter connection is of very recent date, however, and cannot prejudice its use in ornithology, being proposed by Clemens in 1864 (Proc. Philad. Entom. Soc., II, 1864, p. 428) for a lepidopterous insect.

The name *Wilsonia* was given by Bonaparte in 1838 (Comp. List., p. 23) as a GENERIC term ("Genus 108, *WILSONIA*, Nob."), and in this genus he included the following species, thus named: —

138. *Wilsonia mitrata*, Nob.,
139. *Wilsonia bonapartii*, Nob.,
140. *Wilsonia minuta*, Nob.,
141. *Wilsonia pusilla*, Nob.;

these being exactly the same four species which at the present date are admitted into the genus. If the name *Wilsonia* cannot be rejected, because preoccupied in botany, it will have to take precedence of *Myiodiotes* Audub., 1839.

VIII. *Larus schistisagus*, A NEW SPECIES OF GULL FROM THE NORTH PACIFIC.

Among the specimens of Gulls collected by me on the Commander Islands is a very dark-mantled large species, somewhat intermediate between *L. marinus* and *L. cachinnans*, although in general aspect much nearer to the former, and when on the wing indistinguishable from it.

The occurrence of this new species in the Kamtschatkan waters easily explains the abnormality in the alleged distribution of *Larus marinus*, as it is almost certain that all North Pacific references to the latter species really belong to the present form.

Larus schistisagus n. sp.

DIAGN.—White; mantle dark bluish slate-gray. First primary with a long white tip, apical and subapical spots being fused together, and a gray 'wedge' on the inner web; second with a subapical white spot on the inner web only, and the gray wedge reaching further down towards the tip; third with the wedge reaching the white subapical spot; no gray wedge on outer web of the four first primaries. Feet pinkish flesh-color. Total length, 670 mm., wing, 460 mm.

TYPE: U. S. Nat. Mus. No. 92,885.

SYN. 1858.—*Larus cachinnans* KITTLITZ, Denkw. Reise, I, p. 336 (nec PALL.).

1858.—*Larus argentatus* KITTLITZ, op. cit. II, p. 225 (part.).

1860.—*Larus argentatus* var. *cachinnans* SCHRENCK, Reise Amurl. I, p. 504.

1871.—“*Larus fuscescens* Mus. St. Petersb.” MEVES. Cefv. Sv. Vet. Akad. Förhandl. 1871, p. 787.

1874.—*Larus marinus* SWINH. Ibis, 1874, p. 165 (nec LINN.).—SAUNDERS, P. Z. S. 1878, p. 180 (part.).—SEEB. Ibis, 1879, p. 24.—BLAK. and PR. Tr. As. Soc. Japan, X, 1882, p. 104.—RIDGW. Bull. Nutt. Orn. Cl. 1882, p. 60.—BEAN, Pr. U. S. Nat. Mus. 1882, p. 168.—NELSON, Cruise Corwin, p. 107 (1883).

1876.—*Larus pelagicus* TACZAN. Bull. Soc. Zool. France, 1876, p. 263 (nec BRUCH.).

HABITAT. Coast of Kamtschatka and other parts of the North Pacific.

This species was found by me in small numbers on Bering Island, near Kamtschatka, during the spring of 1883, and a single specimen was obtained on May 5. I afterwards met with it on the mainland of Kamtschatka in the vicinity of Petropaulski, where it breeds.

REMARKS. The color of the mantle is pure bluish slate-gray without any mixture of brownish, of a shade just between the same parts in *Larus occidentalis* and *L. dominicus*, being a little lighter than the lightest *L. marinus* I have seen, and easily distinguishable from the latter by the pureness of the gray.

Characteristic of the wing-pattern is the presence of a well-developed ‘wedge’ on the inner web of the first primary, as distinctive from *marinus*, as well as the absence of a similar wedge on the outer webs of the second to fourth primaries, in which it differs from *cachinnans* and *argentatus*. The ‘mirror’ on the second primary is also peculiar, resembling, however, the pattern of the corresponding quill in *L. cachinnans*. In the third primary the large white spot at the end of the gray wedge is very characteristic. It may thus be seen, that while the second primary shows less white than in *marinus* and *argentatus*, the third has more of the same color than is the case in the latter two species and in *cachinnans*.

Iris of a clear yellowish cream-color. Bill deep gamboge yellow with whitish tip and tomia; an orange red spot on each side of the lower mandible; angle of mouth yellowish flesh-color. Naked eye-ring reddish violet gray. Feet pinkish flesh-color; nails horny black with whitish tips. (From the fresh specimen!)

A more detailed account of the Slate-backed Gull will be given in my report on the birds collected by me on the Commander Islands and in Kamtschatka.

IX. *Priocella tenuirostris* (AUD.) NOT A BIRD OF BERING SEA OR THE ARCTIC OCEAN.

I feel compelled to correct another mistake in E. W. Nelson's 'Birds of Bering Sea and the Arctic Ocean.' At No. 166 he gives "*Priocella tenuirostris* (Aud.) Ridgw., Slender-billed Fulmar" as occurring in these seas, and says: "There is but a single record of this bird's capture on the coast of Alaska. This was at Kotzebue Sound, whence Mr. Dall secured a single skin during his explorations in the Territory." Under the head of the foregoing species, *Fulmarus glacialis rodgersi*, he passes the following remark: "As we approached the harbor of Ounalaska on September 22, 1881, hundreds of these birds were seen in the ordinary light-colored plumage, which were in company with about an equal number of birds either of the same species or a closely related one of exactly the same size. . . . Mr. Ridgway suggests that the dark-colored birds seen at that time were the slender-billed *Fulmar*."

The bird which Mr. Dall procured was *Puffinus tenuirostris* Temm., and was correctly identified by Professor Baird, as everybody may be convinced by looking at the plate given (Trans. Chicago Acad. Sci., I, 1869, pl. xxxiv, fig. 2, pp. 322, 303). But this bird belongs to a totally different group, the Puffineæ, and is not the same as Audubon's *Procellaria tenuirostris* of the group Fulmariæ. The claim of the latter species for recognition as belonging to the North American Fauna rests solely upon Audubon's type, said to have been collected by Mr. Townsend off the mouth of the Columbia River and now preserved in the National Museum. As the name *Procellaria tenuirostris* is preoccupied by Temminck in 1828 for the *Puffinus*, Audubon's bird should stand as *Fulmarus glacialisoides* (Smith) or *Priocella glacialisoides*.*

* The reviewer of Nelson's memoir, in 'The Auk' 1884, p. 80, correctly quotes this synonym, but seems not to have been aware of the fact, that Dall's bird was something totally different. The error is repeated in Coues's 'Key,' 2d Ed., p. 779.

From this, it is needless to say, that Mr. Ridgway's suggestion did not allude to the Slender-billed *Fulmar*, but to the Slender-billed *Shearwater*. For my own part I think it just as probable that the bird seen was the dark phase of the bird usually known as *Procellaria pacifica* of Audubon. The latter name is preoccupied by Gmelin's *Procellaria pacifica* of 1788, and a new one should therefore be provided. I propose to call it *Fulmarus glacialis glupischa* ('Glupisch' being the name by which the bird is known in the North Pacific). I may add here, that Mr. Nelson is not quite correct either, when asserting that the only known record of this bird having been captured in Alaska is that of the bird obtained by Mr. Dall. F. H. v. Kittlitz secured a specimen at Unalaschka on August 31, 1828. The bird has been recorded by him under the name of *Procellaria curilica* Pallas, a synonym of Temminck's *Procellaria tenuirostris* (Denkwürd. einer Reise, I, p. 296). A third specimen is in the museum at Leiden, said to be from Sitka (Schlegel, Mus. P. B., Proccl., p. 26 (1863)).

X. ON OLD AND NEW GENERIC NAMES.

The second part of Dr. S. H. Scudder's 'Nomenclator Zoologicus. An alphabetical list of all Generic Names . . . II. Universal Index to Genera in Zoology. Complete List of Generic Names employed in Zoology and Palæontology to the Close of the Year 1879, as contained in the Nomenclatures of Agassiz, Marschall, and Scudder, and in the Zoological Record' (Bulletin No. 19, U. S. Nat. Mus.), is just out. As the title says, it is a compilation of the already existing four 'Nomenclatores Zoologici,' and one might, therefore, confidently expect to find almost all the generic names published up to 1879. Ornithologists, at least, will be rather disappointed, however. A hurried glance through the work made it apparent that the following generic names, applied to *North American* birds, are missing, 21 of which are used in the latest Smithsonian List of *North American* birds, prepared by Mr. R. Ridgway:

Ajaja, Alle, Aluco (Guerini, 1767), *Calcarius, Canace, Cathartes, Chamaea, Ciceronia, Clivicola, Cupidonia, Felivox, Florida, Fregetta, Heteroscelus, Phænopepla, Protonotaria, Psaltriparus, Riparia, Salpinctes, Simorhynchus* (Merrem,

1819), *Symphechia*, *Thalassarche*, *Thalassoica*, *Thryomanes*, *Tympanuchus*, *Xanthocephalus*, *Xanthura*.

Neither time nor space will allow me, on this occasion, to review the whole catalogue of some 80,000 names, but the following list of bird-genera, picked out of the letter E alone, will give an idea of the deficiencies: *Eleopicus*, *Elminia*, *Empidivora*, *Entomiza*, *Eomelpusa*, *Eophona*, *Eparnetes*, *Epherusa*, *Ephippiorhynchus*, *Epitelarus*, *Erator*, *Eremomela*, *Ericornis*, *Eridora*, *Eridiscus*, *Erythra*, *Erythræna*, *Erythrauchœna*, *Erythrocercus*, *Erythroena*, *Erythrolaima*, *Erythronerpes*, *Erythropitta*, *Erythropsar*, *Erythroturon*, *Eucampophaga*, *Eucapripodus*, *Euchloridia*, *Eucichla*, *Euenemidia*, *Eucycla*, *Eudacnis*, *Eudyptila*, *Euetheia*, *Euhierax*, *Eulabæa*, *Euliga*, *Eulopogon*, *Eunetta*, *Euodice*, *Euphagus*, *Euptilosus*, *Eurycercus*, *Euryzona*, *Eusphenura*, *Eustrinx*, *Euthonyx*, *Eutolmaëtus*, *Eutrygon*, *Exetastes*, *Exochocichla*. The list is by no means complete and diligent search might add several more names.

The high standard of Agassiz's 'Nomenclator' resulted from his collaboration with prominent ornithologists. He had his proofs revised by men like Bonaparte, G. R. Gray, and Strickland, who, by allowing their names to be printed on the title-pages, partook of the responsibility. The same perfection might have been reached by Dr. Scudder, if he had followed a similar course.

Nevertheless, the work will be of very great use to the working ornithologist, who will only have to be careful to remember that he has not got a complete list of all the existing names.

A look through its pages shows the necessity of several changes in our nomenclature.

In the first place, I find that the name *Sthenelus*, which I applied, in 1882, to the Black-necked Swan from South America, was preoccupied. It consequently requires a new one, and I propose in future to call the species *Sthenelides melancorypha*.

Eudocimus Wagler, 1832, will not hold good as the genus-name for the White and Scarlet Ibises, as there is a lepidopterous insect called "*Eudocima* Billb. 1820." It is very doubtful what name will have to replace it. *Guara* was bestowed upon the Scarlet Ibis by Reichenbach in 1851, and *Leucibis* at the same time upon the White Ibis. But in his 'List of Genera' of 1855 G. R. Gray

quotes “*Paribis* Geoffroy” as a synonym of *Eudocimus*, without further indication of its original occurrence or its date. Later authors have failed to find where it was originally given, and I have not been more fortunate; the name is possibly only a manuscript name. In view of these circumstances it seems desirable to adopt one of the names given by Reichenbach, *Leucibis* being preferable on account of its correct Greek derivation, as compared with the barbaric *Guara*. Until the question about *Paribis* can be settled the two North American species should stand as

R. 501. **Leucibis alba** (*Linn.*) *Reichenb.*, and
R. 502. **Leucibis rubra** (*Linn.*) *Stejn.*

Heteroscelus Baird, 1858, unfortunately will have to give way for *Heteroscelis* Latreille, 1825. As a substitute may be employed

Heteractitis,

from ἔτερος = different, and ὁ ἀκτίης = an inhabitant of the shore.
The North American species will stand as

R. 553. **Heteractitis incanus** (*Gmel.*) *Stejn.*

Before closing these remarks I would call attention to the fact that *Ligea* Cory, 1884, is preoccupied, whether spelt *Ligea* or *Ligia*. The former name was employed by Dybowski for a mollusk; the latter by Fabricius for a crustacean. It seems desirable that Mr. Cory should supply the genus with another name.

NOTES ON CERTAIN LARIDÆ AND PROCELLARIIDÆ OF THE NEW ENGLAND COAST.

BY CAPT. J. W. COLLINS.

IN the second volume of ‘New England Bird Life,’ edited by Dr. Elliott Coues, statements are made concerning the habits of

certain species of our sea-birds to which it seems desirable to call attention, since, as I am informed, similar statements, though erroneous, have generally been put forth as facts by the majority of American ornithologists.

It is stated that the Greater Shearwater (*Puffinus major*)—the 'Hag' or 'Hagdon' of the fishermen—and the 'Black Hag' (*P. fuliginosus*), both of which usually come and go together, are winter birds on our coast. Though it may appear egotistical for me to question such high authority, I am, nevertheless, compelled to say that these birds are not found with us in winter, unless, indeed, a stray specimen might be seen. In thirty years of sea-life off the coasts of New England and the British North American Provinces, I have never seen any 'Hags' in winter, nor have I learned of their occurrence at that season. They usually come in May, the time of arrival being slightly varied by the condition of the weather. In the spring of 1879 I saw the first 'Hagdon' (*P. major*) on May 26, and three days later they were abundant, sitting on the water in large flocks, as is their habit when they first reach the fishing banks, or when they are about to depart in the fall, though at other times they rarely congregate except they may be attracted together by the presence of food. They usually leave the fishing grounds—from Cape Cod to the Grand Bank—in October and November; the first snow starts off any of these birds which have remained behind their companions.

I have no knowledge of where or when they breed. I have opened many hundreds (it would not, perhaps, be an exaggeration to say thousands), and I never found one with sexual organs in a condition which would indicate that the birds were breeding.

Dr. Coues also speaks of the Arctic Jaeger (*Stercorarius buffoni*) as "occurring off the coast in fall and winter, with other species of the genus." This is the 'Whiptail' of the fishermen, sometimes also called 'Marling Spike,' though the latter name is more generally applied to the Pomarine and Richardson's Jaegers. All of the Jaegers are most abundant in spring and fall, as I find by consulting my notes; are rarely seen in mid-winter, and are comparatively scarce in mid-summer. The Arctic Jaeger I have not seen in winter, so far as I can remember, and I have no notes concerning it at that season. It is not, however, at all improbable that it may occasionally be seen

during winter. I have noted the appearance of the larger species at that season, though always in small numbers and on comparatively rare occasions. *S. buffoni* occurs in summer and fall from George's Bank to the Grand Bank—probably has a much wider range. It is never abundant and is much more timid than the other birds of this genus. In September, 1878, Mr. R. L. Newcomb (who afterwards went on the ill-fated 'Jeannette') collected some birds of this species on Banquereau, and the next summer I obtained several specimens near the same place. These are now in the Smithsonian collection.

The Great Skua, the 'Sea-hen' of the fishermen (*Stercorarius skua*), is occasionally seen on the fishing grounds at all seasons. It is never abundant, one, two, or three birds being generally seen at a time, and on very rare occasions perhaps a half dozen will gather around a vessel from which offal is being thrown out. I have found them most common on the Grand Bank in autumn, and in the fall of 1875 I shot several fine specimens that were used as bait. I believe they occur far more frequently than is generally supposed. In some notes, on the habits and methods of capture of various species of sea-birds which are used for bait, that I have prepared for publication in the Annual Report of the U. S. Fish Commission, occasional mention is made of the Great Skua. From November 27, 1878, to July 5, 1879, 'Sea-hens' were seen on four occasions. On the 17th of last October, while passing Nantucket South Shoal in the U. S. Fish Commission Steamship 'Albatross,' I saw a pair of these birds fly across the vessel's bow not more than 200 yards distant.

Fulmarus glacialis—called 'Marbleheader,' 'Noddy,' 'Oil-bird,' etc., by fishermen—which I notice has been considered a rare bird, is fairly plentiful in winter from George's to the Grand Bank, and is often seen in summer east and north of Cape Sable, Nova Scotia. In former years many hundreds if not thousands of them were caught by the Grand Bank fishermen and used for bait. The great voracity of these birds renders their capture by hook and line a comparatively easy task, and they are frequently caught in this way by the men who are "fish-ing" for 'Hagdons.'"

REMARKS UPON THE CLOSE RELATIONSHIP BETWEEN THE WHITE AND SCARLET IBISES
(*EUDOCIMUS ALBUS* AND *E. RUBER*).

BY ROBERT RIDGWAY.

THE White Ibis (*Eudocimus albus*) and the Scarlet Ibis (*E. ruber*) agree minutely in the details of structure, in size, and in pattern of coloration. The former, however, in the adult stage is white, with greenish black tips to the outer primaries, while the latter is intense scarlet with blue-black tips to the same feathers. Both have red bills and feet, and blue irides, although the bill is sometimes blackish, especially toward the end. In other words, an *E. albus* dyed scarlet would be indistinguishable from an *E. ruber*, while a specimen of the latter with the red coloring destroyed by some artificial process would in all respects pass for an *E. albus* but for the different gloss to the black quill-tips. It is known that when kept in zoölogical gardens in temperate climates the Scarlet Ibis loses its scarlet livery and assumes a pinkish or rose-colored dress. In the 'Guide to the Gardens of the Zoölogical Society of London,' this circumstance is mentioned, in the following words: "Nothing can be more intense in color than the Scarlet Ibis, when its plumage is developed under the hot sun of tropical America. In Europe, however, it rarely reproduces this gorgeous livery; and at each successive moult the adult birds usually become more pale." Mr. J. H. Gurney calls attention to the same fact in 'The Ibis' for July, 1883, page 392, and says that this bird when brought alive to England in full adult plumage "loses its gorgeous crimson coloring at the next moult and assumes a rose-colored livery, which it retains as long as it survives in this country." He furthermore states (p. 393) that Mr. Bartlett, superintendent of the Zoölogical Society's Gardens in London, informs him that he has "verified this by observations during a long series of years."

If so great a modification of plumage is wrought in the same individual by changed conditions of environment, it seems not impossible that a further change of color might ensue in the progeny of birds breeding in colder climates (assuming that they

would do so), and that successive generations would eventually become pure white, with little if any red tinge.*

The geographical range of the two species suggests, from this standpoint, such a relationship between the two species, *E. ruber* being strictly tropical, and scarcely extending beyond the parallel of 20° north latitude, except as an accidental straggler, while *E. albus* is decidedly more northern, its centre of abundance lying between the parallels of 20° and 30° north.

The importance of this case as affecting the status of certain so-called dichromatic species of water-birds (notably among Herons) is very great. Probably no one would be willing to consider *Eudocimus ruber* and *E. albus* as dichromatic phases or races of one species; yet they are apparently as much so as *Ardea occidentalis* and *A. würdemanni* or *A. wardi* on the one hand or *Dichromanassa rufa* and *D. pealei* on the other; or at least, the probability of their common origin is evident.

A nearly parallel example is afforded by the Snow Goose (*Chen hyperboreus*) and Blue-winged Goose (*C. cærulescens*). In 'North American Water Birds,' Vol. I, page 437, the absolute similarity of size and proportions, involving all structural details, in these supposed species, notwithstanding the great difference of colors, is alluded to, as "a fact which suggests the mere possibility of their being white and colored phases of one species, as in some Herons," and that, the chief variations in *A. cærulescens* being a tendency to increased extent of the white markings, "the possibility of such a relationship should be borne in mind."



ON THE OCCURRENCE OF THE WHITE-WINGED GULL (*LARUS LEUCOPTERUS* FABER) IN THE STATE OF NEW YORK.

BY GEORGE N. LAWRENCE.

EARLY in March of this year, I was requested by Mr. John G. Bell, to examine a Gull which had been sent to him to be

*I am informed by persons who have shot *E. albus* in Florida that the plumage of living and freshly killed birds is decidedly tinged with pink or rose-color.

mounted, and as it was unknown to him, to determine the species.

On examination I found it to be a young specimen of *Larus leucopterus*; it was sent to him by Mrs. Greene Smith of Peterboro, N. Y., at which place it was captured.

I informed Dr. Merriam of the fact and suggested that he should write to Mrs. Smith, asking for particulars concerning it. He did so, and has communicated to me the following information:—

“Mrs. Greene Smith being away, the letter was answered by Mr. H. C. Wilson, her overseer. Wilson says: ‘The Gull spoken of by you was shot by a farmer’s boy, three-quarters of a mile from this place, in an open spring place, $1\frac{1}{2}$ rods long by 10 or 12 feet wide, on the first day of February. The boy wounded it and kept it alive for two or three days. It was doubtless driven inland by the severe storm of about that date, as there is no open water nearer than Seneca Lake, 75 miles from this place.’ This completes the data on the bird, I believe.”

Mr. Bell said it was in poor condition; this was to be expected, from inability to procure its customary food.

The general plumage is of a dull white, marked all over with light ashy-brown spots; these are most distinct on the back and wings, and less defined on the head, neck, and under plumage; the quills are white on the inner webs, and ashy on the outer; there is no indication of any black spots on the ends of the primaries; the tail-feathers are light ashy-brown, mottled with dull white on the inner webs, except near their ends, where the ash color is immaculate; the bill is blackish-brown; the tarsi and toes are flesh-color.

The wing measures 16 inches; the tail, 6.50; the tarsus, 2; the bill from front, 1.50; from gape, 2.50; height at angle, 70.

This is the first immature specimen of this species I have had the opportunity to examine; it agrees very well with Audubon’s figure of the young; the difference in plumage from that of the adult is very similar in character to that which exists in *Larus glaucus*.

There are but few references to its appearance in our state. Audubon says of it: “I have not met with this species farther south than the Bay of New York.”

I inquired of Dr. Merriam for further information concerning it; he wrote as follows: “I have myself recorded *Larus leucop-*

terus from the Adirondacks (Bull. N. O. C., Vol. VI, No. 4, Oct. 1880, p. 235). I did not kill the bird, but saw them (there were two) for several hours flying about a pond. They were smaller than *argentatus*, and the primaries were without black tips. This was just after the ice had gone out of the lakes in April, 1878."

BIRD NOMENCLATURE OF THE CHIPPEWA INDIANS.

BY W. W. COOKE.

DURING a three years' residence among the Chippewas at White Earth, Minn., I had many opportunities of learning the names which they give to birds, and some of their ideas regarding them. These Indians claim to have a name for each and every kind of bird inhabiting their country; as a fact, they have no specific name for fully one-half of those which yearly nest before their eyes, or pass by in migration. We may say in general that they give names to all winter residents, since at that time bird life is so scarce that each one is accurately noticed, while summer birds of much greater dissimilarity receive but one name.

Among summer residents, nearly all those that are hunted for food are named and described. Indeed, few white hunters, or ornithologists, can recognize the different species of Ducks as quickly or at as great a distance as many of these Indians. Of the other summer birds, most of the large species have names, but some of these, as, for example, those of the Hawks and Owls, are very loosely applied. They all seem to be familiar with the names, but not with the particular bird to which each belongs. This may be accounted for by the large number of stories about these birds which are told to the children, teaching them the names, but not the appearance of the birds. The small birds of summer seem to the Indian beneath his notice, and when asked the name, the answer not uncommonly is, "Why do you want to know its name? It isn't good to eat." They consider that when to a small winged animal they have given the name 'bird,' they have done their whole duty.

In regard to the etymological meaning of the bird names, we find, as in English, that some are descriptive of the bird or its habits, while others are mere names, without signification. A large proportion are compounds, for the language as a whole is compound, with but few roots, these usually having meaning. The names of most of the large, common, and best known birds are simple and without signification.

All the bird names used by Longfellow in 'Hiawatha' were identified except *O-wais'-sa*, the Bluebird; *Chi-to'-wak*, the Plover, and *Wa-won-e'-za*, the Whippoorwill. Longfellow says the scene of his poem is laid among the Indians of the Pictured Rocks of Lake Superior, but I was unable to find any Indian who had ever heard these names, though I examined several who were born and brought up along the southeast shore of the lake. It may be that these words belong to the Canadian Chippewas or *Nah-tah-was*, and have been accidentally introduced among the names of the western tribe.

The names given by Bishop Barega, in his dictionary of the Ojibwa Language, have all been identified except *A-mik'-o-shib*, the Beaver Duck; *O-da'-ma-we'-shi*, a small white bird; *Ja-wa'-ni-bi-ne'-shi*, South Bird; *Du-qua'-que-we'-shib*, Short-necked Duck, and *Mi'-gi-san-na-ni'-si*, Eagle-fighter, a small blue bird. Unfortunately the Bishop, though a good theologian, was no ornithologist, and besides saying "Are not two *swallows* sold for a farthing?" he has wrongly identified nearly one-half of the birds he has named.

The list, as it now stands, is practically complete. At the outside there are not more than five or six names to be added.

In these names the French system of spelling is used—that is, *a* has the sound of *a* in *ah*; *e* is pronounced like a long *i*, like *é* long; *o*, like *o* long, *u*, like *u* short; *ai*, like *i* long; *j*, like *zh*; *g*, usually like *g* hard; in the few cases where *g* is soft it is distinguished by being printed in Italic type.

The English name is given first, then the Latin, according to the Smithsonian Catalogue, then the Chippewa, then the etymological meaning of the Indian name, and lastly, remarks.

THRUSH, in general, *A-nuk'*.

1. OLIVE-BACKED THRUSH. *Hylocichla ustulata swainsoni*. **A-nuk'**.
Mere name.

2. WILSON'S THRUSH. *Hylocichla fuscescens*. **An-wak'**. Name.

3. AMERICAN ROBIN. *Merula migratoria*. **O-pi'-che**. Name.
4. CATBIRD. *Galeoscoptes carolinensis*. **Ma-ma'-dwe-bi-ne'-shi**, the bird that cries with grief; referring to its note.
5. BROWN THRUSH. *Harpornynchus rufus*. **Chi'-a-nuk'**, big Thrush.
6. BLUEBIRD. *Sialia sialis*. **O-zou-wash'-ko bi-ne'-shi**, the blue colored bird.
7. BLACK-CAPPED CHICKADEE. *Parus atricapillus*. **Kitch'-i-kitch'-i-ga'-ne-shi**. Attempted mimicry of its song.
8. WHITE-BELLIED NUTHATCH. *Sitta carolinensis*. **Chi-chi-ga'-nan-da-we'-shi**. Imitation of song.
9. RED-BELLIED NUTHATCH. *Sitta canadensis*. **Ki-ki-bi'-di-ko-me'-shi**. Imitation. Some claim that this is merely another name for *S. carolinensis*.
10. HOUSE WREN. *Troglodytes aëdon*. **O-du-na'-mis-sug-ud-da-we'-shi**, making a big noise for its size. They do not distinguish it from the Winter Wren.
11. MARSH WREN. *Telmatodytes palustris* and *Cistothorus stellaris*. **Mus-ko'-zi-bi-ne'-shi**, marsh bird. They do not distinguish between the two Wrens, nor between these and the Swamp Sparrow (*Melospiza palustris*).
12. SUMMER YELLOWBIRD. *Dendræca aestiva*. **O-za'-wa-bi-ne'-shi**, yellowbird. They would also apply the same name to all the Warblers which have much yellow, thinking that they are all one and the same species.
13. BLACK-THROATED BLUE WARBLER. *Dendræca cærulescens*. **O-ja'-wa-no**, bluebird. Of this I am not sure, although I have it on good authority.
14. VIREO. Not a Vireo is named.
15. SHRIKE. *Lanius borealis*. **Kitch'-i-win'-di-go-bi-ne'-shi**, big cannibal-bird.
16. BOHEMIAN WAXWING. *Ampelis garrulus*. **O-ze'-gi-ban-wan'-i-shin**, crested bird.
17. CEDAR WAXWING. *Ampelis cedrorum*. **O'-gi-ma-bi-ne'-shi**, the bird that is king or chief.
18. PURPLE MARTIN. *Progne subis*. **Mu-ku-de'-shau-shau'-wun-ni-bi'-si**, black Swallow. All other Swallows, **Shau-shau'-wun-ni-bi-sence'**, little bird that tumbles over and over in the air; alluding to its manner of flying.
19. SCARLET TANAGER. *Pyranga rubra*. **O-da'-gi-na-ma-ne'-shi**. Could not learn its meaning. The name *Ish'-ko-de-bi-ne'-shi*, fire bird, is also applied to it, just as the whites call it the Firebird.
20. EVENING GROSBEAK. *Hesperiphona vespertina*. **Pash-kan'-da-mo**. Refers to a noise made by breaking something, but I am unable to find any reason for applying it to this bird.
21. PINE GROSBEAK. *Pinicola enucleator*. **O-ka-nis'-se**. Mere name.
22. CROSSBILL, both species. **A'-ji-de-ko-ne'-shi**, having a crossed bill.
23. AMERICAN GOLDFINCH. *Astrigalinus tristis*. **Bi-yung'**. Name.

24. SNOW BUNTING. *Plectrophanes nivalis*. **Wa'-bu-nong-o'-zi**, morning star bird; application not obvious.

25. SONG SPARROW. *Melospiza fasciata*. **Kos-kos-ko-ni'-chi**, making a scraping or whispering noise. This name is also indiscriminately applied to any small dull-colored bird, which is seen in the grass or on low shrubs. Probably thirty or more species would be included under this name.

26. BLACK SNOWBIRD. *Junco hyemalis*. **Bu-te'-shi-wish**. Name.

27. TOWHEE BUNTING. *Pipilo erythrophthalmus*. **Muk-ud-e'-ai-a'-nuk**, black Thrush.

28. ROSE-BREASTED GROSBEAK. They must have a name for it, but I failed to find it.

29. BOBOLINK. *Dolichonyx oryzivorus*. **Shi-ka'-go-bi-ne'-shi**. Chicago bird, that is, skunk bird, from the white stripe down the middle of the back.

30. COWBIRD. *Molothrus ater*. **A-ga'-jid-as-sig'-gi-nak**, small Blackbird.

31. YELLOW-HEADED BLACKBIRD. *Xanthocephalus icterocephalus*. **Bwan-ence'-as-sig'-gi-nak**, little Sioux blackbird; because its home is in the west, in the land of the Sioux.

32. RED-WINGED BLACKBIRD. *Agelaius phoeniceus*. **Me'-mis-ko-di'-ni-mang-a-ne'-shi**, the red-shouldered bird.

33. BLACKBIRD, in general. **As-sig'-gi-nak**, living in flocks.

34. MEADOW LARK. Very scarce in the land of the Chippewas, and I could find no one who had ever heard a name for it.

35. BALTIMORE ORIOLE. *Icterus galbula*. **Wa-do'-pi-bi-ne'-shi**, poplar or willow bird; from its nesting so frequently on the boughs of these trees.

36. PURPLE GRACKLE. *Quiscalus purpureus*. **Chi-as-sig-gi-nak**, big Blackbird.

37. AMERICAN RAVEN. *Corvus corax carnivorus*. **Ka-gog-i'**. Name.

38. CROW. *Corvus frugivorus*. **An-deg'**. Two meanings are given, (1) "renewal," referring to the spring, and (2) "those that come," meaning those that migrate, in contradistinction to the Raven, which is resident. Whichever meaning is the true one, it remains a fact that the Chippewas look upon the coming of the Crow as the sign of spring, and say: "We will soon be making sugar. The Crows have come." All signs are fallible, and I have seen it 35° below zero after the Crows had made their appearance.

39. MAGPIE. *Pica rustica hudsonica*. **A-pish'-ka-gog-i'**, like the Raven.

40. BLUE JAY. *Cyanocitta cristata*. **Jan-di'-si**. Name.

41. CANADA JAY. *Perisoreus canadensis*. **Guin-gui'-shi**. Name.

42. SHORE LARK. *Eremophila alpestris*. **O-za'-wa-wa'-bu-nong-o'-zi**, yellow Snow Bunting.

43. KINGBIRD. *Tyrannus carolinensis*. **Win'-di-go-bi-ne-shi**. Cannibal bird, or the bird which has the characteristics of a cannibal giant.

It will be noticed that they give the same name to the Shrike and the Kingbird; a name which refers both to the butchering qualities of the one and the fighting qualities of the other.

44. PHOEBE. No name, and none for the rest of the Flycatchers.
45. RUBY-THROATED HUMMER. *Trochilus colubris*. **Nen-o-ka'-si**. Name.
46. CHIMNEY SWIFT. *Chætura pelasgica*. **Me-mit'-ti-go-ning-gue-ga-ne'-si**, wooden quills, in allusion to the stiff tail-feathers.
47. WHIPPOORWILL. *Caprimulgus vociferus*. **Gwen-go-wi-a'**, imitation of cry. As the Indian pronounces it, it is a better imitation than our English *whip-poor-will*.
48. NIGHTHAWK. *Chordiles popetue*. **Besh-que'**, imitation of the peculiar noise it makes as it swoops down when flying.
49. HAIRY and DOWNTY WOODPECKERS. *Picus pubescens* and *P. villosus*. **Pa-pa'-se**, cracking, from the noise the bird makes in pecking at trees. *Picoides arcticus* and *Sphyrapicus varius* occur, but are not distinguished from *Picus villosus*.
50. PILEATED WOODPECKER. *Hylotomus pileatus*. **Me'-me**, probably from its cry.
51. RED-HEADED WOODPECKER. *Melanerpes erythrocephalus*. **Pa'-que-a-mo'**, the bird that breaks off pieces.
52. YELLOW-SHAFTED FLICKER. *Colaptes auratus*. **Mo-ning'-gua-ne'**, bird with dirty colored wings.
53. KINGFISHER. *Ceryle alcyon*. **O-gish'-ki-mun-is-si'**, cut up to a point, as the Indians dress their hair on state occasions; referring of course to the bird's crest.
54. CUCKOO, both species. **Pi-gua-o-ko'-que-o-we'-shi**, imitation of note, which in Indian, as in English, is supposed to foretell rain.
55. OWL, in general. **O-ko'-ko-ko-o'**, afraid. The word is now used in Chippewa with that meaning. I suspect, though I have no authority for it, that the name was originally given to the bird in imitation of its note; and then, as its habits during the day time became known, the word came later to have its present meaning.
56. LONG-EARED OWL. Distinguished but not named.
57. SHORT-EARED OWL. Not distinguished.
58. BARN OWL. *Aluco flammeus americanus*. **Bo'-du-wi-dom-be'**. No meaning that I can find.
59. BARRED OWL. *Strix nebulosa*. **Wen'-gi-du-ko-ko-ko-o'**, true Owl.
60. GREAT GRAY OWL. *Ulula cinerea*. **We-wen'-gi-ga-no'**. No meaning found.
61. LITTLE SCREECH OWL. *Scops asio*. **Ka-kab'-i-shi**. Mere name.
62. GREAT HORNED OWL. *Bubo virginianus*. **O-tow'-i-ge-o-ko'-ko-ko-o'**, horned Owl.
63. SNOWY OWL. *Nyctea scandiaca*. **Wa'-bi-o-ko'-ko-o'**, white Owl.
64. HAWK OWL. No name found.
65. HAWK, in general. **Ke-kek'**, mere name, unless possibly imitation of scream.

66. SPARROW HAWK. *Tinnunculus sparverius*. Pi-pi'-gi-wi-zance', a diminutive name.

67. FISH HAWK. *Pandion haliaetus carolinensis*. Mi'-gi-ki-gua-ne'. Name.

68. SWALLOW-TAILED KITE. *Elanus forficatus*. Kitch'-i-shau-shau'-won-ni-bi'-si, big Swallow.

69. MARSH HAWK. *Circus hudsonius*. O-no'-gi-gi-neb-i-que'-si, snake hunter.

70, 71. COOPER'S HAWK and SHARP-SHINNED HAWK (*Accipiter cooperi* and *A. fuscus*) are both called Ke-kek'. When wishing to distinguish them, *A. cooperi* is called Mish'-i-ke-kek', hairy Hawk; application not obvious.

72. RED-TAILED HAWK. *Buteo borealis*. Mis'-qua-na-ni'-si, small red Hawk.

73. GOSHAWK. *Astur atricapillus*. Ki-bwan'-i-si. I think this is correctly identified. It was given to me as "a large Hawk which stays here all winter," and I think the Goshawk is the only one that remains habitually in northern Minnesota during the winter.

74. ROUGH-LEGGED HAWK. *Archibuteo lagopus sancti-johannis*. Mu-ku-de'-ke-kek', black Hawk.

75. SWAINSON'S HAWK. *Buteo swainsoni*. Tchai-ince'. Mere name. Of this I am not sure, and I think it not unlikely that *B. lineatus*, *B. swainsoni*, and *B. pennsylvanica*, all come in for a share in this name.

76. GOLDEN EAGLE. *Aquila chrysaëtos canadensis*. Gi-neu'. Name. This is the War Eagle of the Chippewas, and its tail-feathers are highly prized as head ornaments.

77. BALD EAGLE. *Haliaëtus leucocephalus*. Mi'-gi-zi. Name. When young, or gray, it is called In'i'-ni-zi, man Eagle; when old and white, Wa'-bi-jush-kwe', white woman.

78. TURKEY BUZZARD. *Cathartes aura*. Wi-nong'-a, dirty wing.

79. PIGEON. *Ectopistes migratoria*. O-mi'-mi. Imitation of note.

80. MOURNING DOVE. *Zenaidura carolinensis*. Not distinguished, but the tame Dove is called Wa'-ba-mi'-mi, white Pigeon.

81. TURKEY. *Meleagris gallopavo americana*. Mi-sis'-si. Name. They call the Peacock the 'splendid Turkey.'

82. CANADA GROUSE. *Canace canadensis*. Mus-ko-de'-se, prairie bird.

83. PRAIRIE HEN. *Cupidonia cupido*. A-gusk', imitation of call in spring. The Sharp-tailed Grouse is quite as common as *C. cupido*, but is not distinguished.

84. QUAIL. *Ortyx virginianus*. No name.

85. RUFFED GROUSE. *Bonasa umbellus*. Wen'-gi-da-bi-ne', true Grouse. Grouse in general, Bi-ne'. Mere name.

86. GREAT BLUE HERON. *Ardea herodias*. Shu-shu'-ga. Name; possibly imitative.

87. AMERICAN BITTERN. *Botaurus lentiginosus*. Mosh-ka-was-shi, coming up from under. The Indians claim that it makes its cry while

holding its head under water, so that the sound has to come up out of the water.

88. LEAST BITTERN. *Ardetta exilis*. **Ga-na-wa'-bi-mo-gi'-zis-si-swesh'-in**, the bird that looks at the sun; referring to its habit of climbing upon reed stalks and then holding up its head, as if looking toward the heavens.

89. GOLDEN PLOVER. *Charadrius dominicus*. **O-za'-wa-gi'-gak-o-chu-is-ki-wen'**, yellow Crane Sandpiper.

90. KILLDEER. *Oxyechus vociferus*. **Mus-ko-de'-chi-chi-ji'-twish-ki-wen'**, big prairie Sandpiper.

91. WOODCOCK. *Philohela minor*. **Kitch'-i-pa-dash'-ka-an'-ja**, big Snipe.

92. WILSON'S SNIPE. *Gallinago media wilsoni*. **Pa-dash'-ka-an'-ja**, bill long and pointed.

93. SANDPIERS, in general, and the Pectoral Sandpiper (*Actodromas maculata*) in particular, **Ji-twish'-ki-wen'**. Poor imitation of cry.

94. CURLEW. Am told it has a name, but have been unable to find it.

95. SORA RAIL. *Porzana carolina*. **Mo-no'-min-i-kesh'-i**, rice bird, from its living in the swamps of wild rice. This is the only Rail they are familiar with, but they would use the same name for any other kind.

96. AMERICAN COOT. *Fulica americana*. **A'-tchi-ga-deg**, legs hanging down behind.

97. SANDHILL CRANE. *Grus canadensis*. **A-gi-gak'**. Name.

98. WHOOPING CRANE. *Grus americana*. **Wab'-a-gi-gak'**, white Crane.

99. SWAN, both species. **Wa'-bi-si**, white bird.

100. The name *Ma-na-bi'-si*, they say they give to a small kind of Swan that is not an uncommon visitor to this country. I am unable to identify the bird, but suspect it is the Snow Goose.

101. CANADA GOOSE. *Bernicla canadensis*. **Ni-ka'**. Name.

102. BRANT. *Bernicla brenta*. **We'-we'** (with strong nasal sound and emphasis to each syllable). Imitation of the bird's 'honk.'

103. WHITE-FRONTED GOOSE. *Anser albifrons gambeli*. **A-pish'-ni-ka'**, like a Goose. This is the only bird that is at all like the description they give of this species. Still I am not perfectly sure of the identification.

104. MALLARD. *Anas bosca*. **I-ni'-ni-shib'**, man Duck. *Shib* is the ending meaning Duck. The female Mallard they call *Wab'-i-ni-ni-shib'*, white Mallard.

105. BLACK MALLARD. *Anas obscura*. **Muk-ud-e'-shib**, black Duck.

106. PINTAIL. *Dafila acuta*. **Kin-o-gua'-ya-we-shib**, long-necked Duck.

107. SHOVELLER. *Spatula clypeata*. **Ma-da-i-ga'-ni-shib**, shovelling Duck.

108. BLUE-WINGED TEAL. *Querquedula discors*. **We-wi'-bing-guang-ge'**, making a noise while fluttering its wings.

109. GREEN-WINGED TEAL. *Nettion carolinensis*. **Sug-gu-ta'-ka-ni-shib**. Spunk Duck. Can find no reason for giving this name. It is also called 'Big Teal.'

110. WOOD DUCK. *Aix sponsa*. **Si-a-mo'**. Name.

111. SCAUP DUCKS (both *Fulix marila* and *F. affinis*). **Ma'-ni-do-shib'**, spirit Duck.

112. RING-BILLED BLACKHEAD. *Fulix collaris*. **Tu-gua'-go-shib**, fall Duck.

113. REDHEAD. *Aythya americana*. **Kitch'-i-tu-gua'-go-shib**, big fall Duck. The Indians call the Canvasback by the same name. They did not distinguish between the two species until white hunters taught them the difference.

114. AMERICAN GOLDEN-EYE. *Clangula glaucium americana*. **Mud-we-ang'-ge-shib**, wings making a whistling. Another name for the same Duck is *Pi-kwa'-ko-shib*, arrow Duck.

115. BUTTERBALL. *Clangula albeola*. **Wa-ke'-i-a'-wi-shib'**, shot eater, because it is so hard to hit.

116. SHELDRAKES, in general, **An'-zig**, from an herb, growing at the bottom of lakes, on which it feeds.

117. AMERICAN SHELDRAKE. *Mergus merganser americanus*. **Kitch-i-an'-zig**, big Sheldrake.

118. RED-BREASTED SHELDRAKE. *Mergus serrator*. **O-ga-wan'-zig**, yellow Sheldrake.

119. HOODED SHELDRAKE. *Lophodytes cucullatus*. **Gi-ni-ko-ne'-shib**, sharp-billed Duck.

120. A Duck, not identified, is called **A-mik'-o-shib**, Beaver Duck.

121. PELICAN, both species. **She'-de**. Name.

122. DOUBLE-CRESTED CORMORANT. *Phalacrocorax dilophus*. **Ka-gog'-i-shib**, Raven Duck.

123. For all the Gulls and Terns, they have but one name, **Kai-osk'**, intended as an imitation of their cry.

124. HORNED GREBE (*Dytes auritus*), or Eared Grebe (*D. nigricollis*), or both. **Kitch'-i-shin'-gi-bis**, big diver.

125. LOON. *Colymbus torquatus*. **Mang**, brave. This is almost the only word of one syllable in the Chippewa language. In English, to call a person a loon is not very complimentary, but the Indians use loon-hearted just as we do lion-hearted, to denote extreme bravery. In the fall, when the colors get dull, the name **A'-shi-mang** is given, meaning false Loon.

126. THICK-BILLED GREBE. *Podilymbus podiceps*. **Shin'-gi-bis**, deformed.

We may close these notes by giving one of the Indian stories by which they account for this name as applied to the Grebes.

Once on a time the Great Spirit looked down on all the beasts and birds and saw that their lives were one dull round of monotonous toil. So he told them to assemble at a certain place and he would teach them many beautiful games. He built an immense wigwam, and at the appointed time all were there except the Grebe. He made fun of the whole matter, and said he knew tricks enough already. While the Great Spirit was instructing the assemblage, the Grebe danced in derision before the door,

and finally, emboldened by the forbearance of his master, ran into the room, and by dancing on the fire, put it out and filled the wigwam with smoke. Then the patience of the Great Spirit could stand it no longer, and giving the Grebe a kick, he exclaimed, "Deformed shalt thou go through this world for the rest of thy days!" The imperial foot struck him just at the base of the tail. It knocked the body forward, but the legs remained behind, and the Grebe has ever since had the legs set so far back on the body that it cannot walk.

ON A NEW GULL FROM ALASKA.

BY H. W. HENSHAW.

In a series of Gulls collected by Mr. E. W. Nelson in Alaska I find a specimen which differs decidedly not only from any other taken by that gentleman but from any in the National Museum collection. Believing it to be new I name and describe it as follows:—

Larus nelsoni, sp. nov.

♂, adult, breeding plumage (No. 97253, Coll. Nat. Mus., St. Michael's Alaska, June 20, 1880. E. W. Nelson, collector): Bill robust, relatively, short; upper mandible slightly convex; lower mandible with moderate angle. First primary longest. Tarsus a little shorter than middle toe and claw. Head, neck, tail, and entire under parts snowy white; mantle pale pearl-blue, lighter than in *glaucescens*, about as in *leucopterus* and *kumlieni*. Primaries: on the *first*, the inner web (except along the shaft) and tip (for three inches) is pure white; outer web, dark slate-gray, except at tip, the slate extending slightly farther in an acute angle to shaft on this than on the inner web. Inner web along the shaft, a lighter shade of the same, fading into white on both webs as the base is approached. The *second* has the slate almost wholly confined to the outer web, upon which it begins two inches from the tip, where it intrudes upon the inner web in the shape of a small spot, and extends upwards along the shaft for 2.25 inches, then makes an acute angle with the shaft and extends 1.50 inches farther on outer margin. On the *third* the slate extends from about 4 inches from the tip nearly to the end, slightly washing the inner web at its extremity. On the *fourth* the slate is paler, and begins on the outer web about one inch from the tip and reaches an inch, then makes an acute angle with the shaft and extends rather more than

an inch; there is a slight trace of this color on the inner web near the tip. On the *fifth*, the slate begins .25 of an inch from tip, extends .50 of an inch along the web, then makes an acute angle with the shaft for one inch. The slate on the inner web is limited to the margin, where it forms a small bar-like spot. The *sixth* is white at the tip, fading gradually into bluish gray. The tips of the secondaries and tertiaries are pure white for an inch and a half or more from the tip, making a strongly defined wing-band. Bill yellow, with a vermillion spot at the angle of the lower mandible.

Dimensions. Wing, 17.25; tail, 8.90; culmen, 2.20; bill from nostril, 1.00; bill from gape, 3.00; height at anterior end of nostril, .86; tarsus, 3.00; middle toe and claw, 2.90.

Habitat: Alaska (St. Michael's).

For the sake of comparison I append measurements of *L. kumlieni*. The first set are as given by Mr. Brewster (Bull. N. O. C., Oct. 1883, p. 217); the second are taken by myself from a specimen (♂ ad.) collected by Mr. Kumlien in Cumberland Sound; (1) Wing, 16.25; culmen, 1.75; bill from nostril, .85; bill from gape, 2.60; height at anterior end of nostril, .65; tarsus, 2.35; middle toe and claw, 2.27.—(2) Wing, 16.10; tail, 7.20; culmen, 1.80; bill from anterior end of nostril, .83; bill from gape, 2.66; height at anterior end of nostril, .68.

It is evident at a glance that this Gull is a close ally of *L. kumlieni*, which bird indeed it may represent upon the N. W. Pacific coast. The main point of distinction is size, *nelsoni* being considerably larger. The pattern of primaries is essentially the same, though the barred appearance of the primaries, which is conspicuous in the specimen of *kumlieni*, referred to above as collected by Kumlien, is not so marked. The slate-gray of the primaries is also very much darker than in *kumlieni*. *Nelsoni* is at once distinguished from *glaucescens* by its lighter mantle, as well as by its patterned primaries. Its resemblance to *glaucus* is much closer, the two being of about the same size, and the color of the mantle is also about the same. In both *glaucus* and *glaucescens* the primaries are concolor with the mantle, while in both *nelsoni* and *kumlieni* the primaries exhibit a distinct pattern. The relations of the two last seem, in fact, to be very similar to those of *glaucus* and *glaucescens*, and to those said to be borne by *leucopterus* and *glaucopterus*. Though bearing a superficial resemblance to *glaucescens*, *nelsoni* is, perhaps, nearer *L. argentatus*, the larger race of which it resembles in size and in the color of the mantle. From *argentatus*, however, it differs in having the pattern of the primaries brownish gray instead of black. The colored spaces of the primaries are

confined mainly to the outer webs, while in *argentatus* the black involves much of the inner webs.

Mr. Brewster appears to be somewhat in doubt as to the relation of Bruch's *chalcopterus* to his *kumlieni*, and thinks they may possibly be the same bird. My own opinion is that Bruch's *chalcopterus* is practically indeterminable, his diagnosis being insufficient to be applied with certainty to any species of a family like the Gulls, where the range of individual variation is so great, and the resemblances so close, as they are between the large, light primaried species of the Far North. Whatever may be the relation of Brewster's *kumlieni* to the *chalcopterus* of Bruch, the latter name cannot apply to the *L. nelsoni*. Bruch's statement that the *chalcopterus* is "wholly similar to the preceding [*L. leucopterus*] except in the primaries," puts *nelsoni* out of the question because of its large size.

I dedicate the species to Mr. E. W. Nelson, as a slight recognition of his valuable services to Alaskan ornithology.

NOTE ON *ASTUR ATRICAPILLUS STRIATULUS*.

BY ROBERT RIDGWAY.

I AM sorry to have to state that *Astur atricapillus henshawi*, described by Mr. Nelson in the April number of 'The Auk,' is essentially the same as my *A. atricapillus striatulus* (*A. atricapillus* var. *striatulus*, Hist. N. Am. B., III, 1874, pp. 238, 239), and that according to the rules of zoölogical nomenclature the later name becomes a synonym of the earlier. *A. atricapillus striatulus* included both the dark western race, to which the name *henshawi* was very properly restricted by Mr. Nelson, and also a special plumage of true *A. atricapillus*; but reference to the original description (l. c.) shows that three of the four specimens described, and therefore virtually the types, are of the dark western race. It is true that the name *striatulus* was suggested by the very fine pencillings of the under parts which

characterize a particular phase of plumage in the adult of *A. atricapillus* proper, and also that the name is somewhat inappropriate when applied exclusively to the form under consideration; but a proper regard for the rules which tend most to the stability of nomenclature will not admit of a name being discarded on account of inappropriateness.

It is due Mr. Nelson to state that he bestowed the name *henshawi* under the impression, which I at the time shared with him, that a new title was necessary; in fact, I had myself transferred *striatulus* to the list of synonyms of *atricapillus*.

ON THE POSSIBLE SPECIFIC IDENTITY OF
BUTEO COOPERI CASS. WITH *B.*
HARLANI (AUD.).

BY ROBERT RIDGWAY.

THE type of *Buteo cooperi* Cass. was obtained by Dr. J. G. Cooper at Santa Clara California, in November, 1855, and the supposed new species described by Mr. Cassin in October of the following year (Proc. Philad. Acad. Sci., VIII, Oct. 1856, p. 253). Since that time but one additional specimen has been taken, the one in question having been procured in Colorado, by Mr. C. E. Aiken, to whose courtesy I am indebted for the opportunity of examining it. A description of this specimen, with measurements, was prepared and sent, in 1875, to the 'American Naturalist' for publication, but I am informed never reached its destination, having probably been lost in the mails. The specimen was returned soon afterward, and I am therefore without memoranda respecting it, except measurements, which fortunately were preserved.* According to my recollection, however, the Colorado specimen agreed pretty closely with the type, except in the color of the primaries, which were marked much like those of *B. borealis* and *B. harlani*; that is, instead of being uniform hoary grayish on the outer webs, they were more brownish, and distinctly marked with dusky quadrate spots. Both specimens differ conspicuously from any plumage of *B. borealis* in having the

*I am informed by Mr. Henshaw that this specimen is still, or was recently, in Mr Aiken's possession.

head streaked with dusky on a white ground, the tawny or rufous edgings always seen in *B. borealis* being wholly absent. The measurements are as follows:—

	Wing.	Tail.	Cul- men.	Tar- sus.	Middle toe.	
Colorado specimen	16.50	9.50	1.10	3.25	1.80	Tars. meas. in front.
Type of <i>B. cooperi</i>	15.75	9.10	1.05	3.15	1.70	" "
<i>B. harlani</i> , No. 6851	15.65	9.00	1.00	2.80	1.60	" "

It will thus be seen that the two specimens of '*B. cooperi*' differ more from one another than one of them does from a typical *B. harlani*. In fact, so far as the measurements are concerned, the extremes as given above* would easily fall within the range of individual and sexual variation in *B. borealis*, or any other species of equal size. The only character of coloration in the type of *B. cooperi* which cannot readily be reconciled with the theory of this supposed species being the light-colored phase of *B. harlani*, is the nearly uniform decided glaucous-gray hue of the primaries, which are almost without a trace of the dark spots seen in all specimens of *B. harlani* that I have examined, and also in *B. borealis*. But since the Colorado specimen (if my memory is not at fault) had, as stated above, the primaries differently marked, or brownish gray with distinct black spotting, just as in *B. harlani*, we may reasonably conclude that the type specimen of *B. cooperi* presents an abnormal or at least unusual coloration of these feathers.

THE SHORE LARKS OF THE UNITED STATES AND ADJACENT TERRITORY.

BY H. W. HENSHAW.

OF all our birds there are probably none that have given rise to so much perplexity and been the occasion of so great confusion as the Horned Larks. Occurring as they do, either as migrants or as summer residents, over almost every portion of our terri-

* Except the length of the tarsus, in which there is a discrepancy that it is difficult to account for.

tory, they necessarily have received frequent mention at the hands of authors and have, indeed, figured in almost every local bird list that has appeared. It needs but a glance at them to reveal the extreme uncertainty that has always attended their identification, uncertainty almost as marked in the notices of experts as of authors of less scientific pretensions. It has long been evident to those who have paid any attention to these birds that the present arrangement fails to meet the necessities of the case, and that either a number of new forms must be recognized or else that the characters of the forms already described must be extended so as to cover the peculiarities presented by a large number of specimens which by anything like a literal interpretation of published diagnoses cannot be assigned at all. In other words, it is clear that the existing arrangement does not permit the facts of geographical variation, of which this bird is a most conspicuous illustration, to be recognized and expressed. Of the two alternatives, the former appears to the writer to be the logical and proper course.

The causes for the extreme variation witnessed in this species are not far to seek. Like several other birds, notably the Song Sparrow, which split up into a number of geographical races, the Shore Larks are to a great extent resident wherever they occur, and, although individually they are by no means local, but wander far and wide for a considerable portion of the year, their movements do not carry them far enough, or last sufficiently long, to subject them to any considerable changes of food or climate. As the result of being subjected to practically permanent conditions, or owing to the possession of an unusually plastic organization, the Horned Lark varies with locality to an extent unprecedented among our birds, even the Song Sparrow, hitherto supposed to illustrate the extreme degree of susceptibility to geographical changes, falling behind in this particular.

Although not, strictly speaking, migratory, the extent to which the Horned Larks change locality is sufficient to materially complicate the geographical relations of the several forms. Over much of the west coast, and in almost all the southern part of the United States, these birds can scarcely be said to migrate at all, although they may, and doubtless frequently do, wander in winter from the localities which form their abode the greater part of the year. In the more northern parts of the United States, and

especially in the territory to the north of the boundary—in British America, Alaska, etc.—the bird partakes more of the character of a true migrant, and every fall and winter witnesses the intrusion from the north into our territory of hordes of these birds. How far south these northern birds penetrate is at present not determinable with accuracy. Judging from specimens at hand the 37th parallel marks about the southern limit. From the intrusion of these northern-born birds into regions where the summer residents only partially migrate, or do not migrate at all, there results a mixing up of the geographical races which is very puzzling. As an instance in point, the writer may mention that at Carson, Nevada, in November, he found two quite dissimilar forms, neither of which represents the bird found at that locality in summer.

The movements of the Shore Larks appear to be chiefly latitudinal, but they also wander to greater or less distances east or west of their true homes. How extensive these longitudinal movements are is not readily determined. The peculiarities of one of the two forms found at Carson in November, as stated, seem to show conclusively that it came from the region to the westward, probably from across the mountains. If this supposition be correct, it would show that, in this instance at least, a very considerable lateral movement had been made in search of suitable food and climate. In itself this is not surprising, for the Oregon Snowbird (*Junco oregonus*) is known to occur abundantly in Colorado and Texas, as well as over the intermediate region, though it has not been ascertained to breed further east than the Sierras, more than 600 miles to the west. However, at present there is too little known of the boundaries of the several races of Shore Larks to enable any statements of value to be made concerning the extent of their longitudinal movements.

As the result of the accumulation of many years, the National Museum possesses a large series of these interesting birds, collected in almost every portion of the country. Large as it is, however, the material proved by no means sufficient for the complete elucidation of the several races of this bird. The great difficulty to a proper understanding of the mutual relation of the forms in the past has been not so much the lack of a sufficient number of specimens as a lack of specimens from the various localities collected in the breeding season. From what has

been said before as to the manner in which the races mingle geographically for a portion of the year, it will be readily understood how extremely unsatisfactory would be results which are dependent in any considerable degree upon a study of winter specimens. In addition, therefore, to the material contained in the Smithsonian collection and in my own private cabinet, the writer found it necessary to call upon friends in various parts of the United States, who have responded most generously to his request for specimens. The aggregate material he has thus been enabled to consult in the preparation of the present paper is believed to be greater than has ever before been brought together, at least in this country. No fewer than 350 specimens are now before him, representing the birds geographically so thoroughly that no area of any considerable size within the United States is believed to be unrepresented.

Before proceeding to formally diagnose the accepted forms, it may be well to briefly mention each race in relation to the area it occupies.

1. **Alpestris.**—The first question that presents itself is the relation of the Shore Lark of Northeastern North America to its European congener. Small as is the series of European birds at the writer's present disposition, it is large enough to show that the differences between the bird inhabiting the northern portions of Europe and the bird of Hudson's Bay, Labrador, and Newfoundland are not sufficient to separate them even varietally. This is in accordance with the conclusions of Ridgway, Coues, and others. Specimens of European origin can be selected that are practically indistinguishable from our birds and that differ less from individual examples of the latter than these do from others bred in the same locality, between which, of course, the differences are purely individual. The bird from Northeastern America may, therefore, be considered identical with the *O. alpestris* of the Old World. It would be extremely interesting to carry the comparison further, and to ascertain the relations borne by the several races of the Horned Lark of this country to the varieties into which the Old World bird is divided. A single specimen from southern Russia differs markedly from the *O. alpestris* of Northern Europe. It evidently represents a very large and extremely pale race, carrying the peculiarities of size and pallid coloration even further than does our *leucomela*.

The number of species that have been described by European ornithologists from time to time suggests that the susceptibility of the Old World bird to changes of size and color corresponding to changes of environment is as great as in this country, and that the question of their relationship is not less intricate than with us. Unfortunately the Old World skins at hand are too few to afford opportunity for discussion in the present connection.

2. **Praticola.**—The first indications of a departure from the type of true *alpestris* are to be noticed in the region to the south and west of the Great Lakes, especially in Illinois. The birds of this region are to be distinguished as a race from *alpestris* proper by smaller size and by paler colors. Specimens in the breeding plumage are at hand from Minnesota, Wisconsin, Michigan, New York, Illinois, Indiana, Missouri, and Eastern Kansas. Those from Michigan are paler than any of the others and suggest an approach to the *leucolæma* type.

In connection with this race, it is of interest to note that it appears to be gradually extending its range and to be encroaching on a territory which by reason of recent deforestation has been made to approach the conditions this prairie-loving species seeks. Thus Dr. C. H. Merriam writes that it has made its appearance in Lewis County, New York, within a very few years, and appears to be gradually gaining a foothold there. The number of specimens of this form before me is very large, and while they show it to be a well marked race, especially when extremes of either form are compared, they also prove that on the one hand it intergrades with *alpestris* and on the other with *leucolæma*, according as the respective regions inhabited by these forms are approached. Certain specimens also from Kansas more than hint that, as we go westward, it passes into *arenicola* of the plains. A winter specimen of this form from Texas indicates the extent of its dispersion at that season.

3. **Leucolæma.**—This form is characterized by large size, it being larger even than *alpestris*, and by pale colors. It never has any decided yellow on the throat, though the latter and superorbital line is not rarely tinged with this color. It has been supposed to breed along our northern frontier in Montana, etc., and Colorado even has been assigned as its summer habitat. So far as specimens at hand show, however, it does not spend the summer anywhere within our frontier, all of the summer specimens

from Montana, Dakota, and Colorado, which have been called *leucolema*, being referable to the next form. The only region where the specimens at hand absolutely prove that it breeds is Alaska, where it was taken by both Mr. Nelson and Mr. Turner. Without doubt, however, it inhabits, in summer, much of the interior of British America, for in early fall and in winter it occurs all along the line of our northern frontier, from the eastern slope of the Sierras (apparently not crossing the mountains) to Eastern Dakota. It is, in fact, a form of the interior plains of high latitude. How far south it goes in winter cannot now be stated. I found it to be abundant at Carson, Nevada, in November. Specimens attest its occurrence at that season in Utah, Colorado, and in Kansas.

4. *Arenicola*.—As compared with *leucolema*, its nearest ally, it is smaller and, while nearly as pale, always shows considerable yellow on the throat. *Leucolema* appears to be even paler in fall than in summer; the reverse is true of the present form, as indeed of all the others which have the yellow on the throat and about the head more diffused. This form inhabits the Great Interior Basin, extending from the eastern border of the plains to the Sierra Nevada, and from somewhere about the line of our northern border to Mexico. Specimens are at hand from all portions of the area mentioned, and they are found to present essentially the same characteristics. Specimens from Montana, Dakota, etc., are somewhat larger than those from farther south, in Arizona and New Mexico. Those from the last-named sections are also brighter and display a rufous cast of coloration which, in some individuals, approaches true *chrysolæma* of Mexico. This is simply what is to be expected. Towards the north *arenicola* grades into *leucolema*, and in the south into *chrysolæma*. There are no summer specimens from localities within our territory farther south than Santa Fé; and it is probable that summer residents in the extreme south of Arizona and New Mexico would be found to be referable to *chrysolæma*.

The *O. occidentalis* of McCall has usually been cited by authors as applying to this interior form. There seems to me, however, to be more than a reasonable doubt as to the bird McCall actually had in hand. He says (Proc. Phila. Acad., 1851, p. 218): "The chief difference between this bird [i.e., his *occidentalis*] and the young of the Shore Lark, is in the different

dimensions, and in the whole of the under parts being whitish [italics mine]; but more particularly in the length and shape of the bill, which is longer, more slender and rather more curved above than that of the Shore Lark, either young or old." The young of none of the Shore Larks are "wholly white beneath," and the fact that McCall makes a direct comparison between his specimen and a young Shore Lark renders it doubtful to my mind whether he did not have a young bird of some other species. In the uncertainty I prefer to rename this form. Baird's *occidentalis* from Salt Lake is referable to *leucolæma*, as his specimens show.

5. **Giraudi.**—That a form of Horned Lark should occur in Texas different from the one inhabiting the plains region of the interior is somewhat remarkable; yet such is certainly the case. The race is characterized by smaller size than *arenicola*; the yellow of the throat is much deeper, and in a very large proportion of the males the yellow overspreads the upper part of the breast. The general color above is of a peculiar grayish cast, not easily characterized on paper, but sufficiently peculiar to render identification of the form easy upon comparison. The bird is, perhaps, confined to the eastern and southeastern portions of the state, though its range is at present not well known.

There is no doubt but that this form is the *Alauda minor* of Giraud, as I ascertain by an inspection of his type specimen. Dr. Stejneger calls my attention to the fact that this name is pre-occupied by the *Alauda minor* of Gmelin of 1788, as applied to the *Anthus pratensis*; hence, unfortunately it is not eligible for use in this connection. As Giraud was the discoverer and describer of the bird, I have applied his name to it, as in some sort a measure of justice to one who in times past has been dealt with rather hardly by American writers.

6. **Chrysolæma.**—This name has been indiscriminately applied in turn to the Horned Larks of almost every portion of our western territory, more particularly to those of California; true *chrysolæma* is, so far as now known, limited to Mexico, where it appears to be a constant resident. It is considerably smaller than *arenicola*, but is about the same size as *giraudi*. It presents a combination of bright colors and rufous tints that serve to distinguish it. The yellow of the throat is much deeper than in any other form.

8. **Rubeus.**—Reaching California a new form presents itself. For this the name *rubeus* has been selected, as the deep 'sorrel'

or rufous color is the character that chiefly distinguishes this form from the foregoing. Its small size is also noticeable, it being the smallest of any of our forms. In a considerable number of specimens from the interior of the state the back, with the exception of some black streaks just above the rump, is entirely rufous. Examples from about San Francisco, Santa Barbara, and San Diego are of a lighter shade of rufous, but all appear to be distinguished from the preceding form. In casting about for a name for the California race I expected to be able to apply the *Alauda rufa* of Audubon. The supposed type of Audubon's plate and description is now before me, and it agrees perfectly with the California form; no locality, however, is given on the label. In the account of his *rufa* Audubon states its habitat to be the whole of the interior of the United States and Mexico. Aside, however, from any doubt attaching to the locality of the specimen, and of its being Audubon's type, the name is preoccupied by the *Alauda rufa* of Gmelin of 1788, as applied to *Anthus ludovicianus*; hence there is no alternative but to propose a new name.

9. **Strigata.**—The remaining form within our territory is the variety *strigata*, which is, perhaps, the most strongly marked of any of the forms mentioned. It is slightly larger than the Californian bird, as would be expected from its more northern habitat, which is the extreme Northwestern United States—the neighborhood of Puget Sound, Washington Territory, and southwards into Oregon. As in this region the rainfall is greater than in any other portion of the United States, it naturally follows that from here would come the darkest colored Horned Larks. Such is the case, and its deep coloration and the conspicuously striped dorsum constitute the essential characters of this race.

To those who have never attempted the identification of any considerable number of Horned Larks, or who are familiar only with specimens from a single restricted locality, it may appear that the number of forms suggested by the above arrangement is excessive, and that in handling the subject an unnecessary degree of refinement has been practiced. This, however, is believed to be not the case. Certainly by predilection the writer is committed to the recognition of as few varieties as the most conservative could desire. Between predilection and practice, however, there must, in such cases as the present, be a wide divergence.

If one would be consistently conservative and refrain from swelling our bird lists with new names, it is absolutely necessary to refrain from the study of specimens. The widely differing climatological and topographical conditions prevailing within our territory are reflected in the great variety of animal forms. It is absolutely necessary to a proper understanding of the subject that these forms, whether properly ranking as species or only as varieties—incipient species—should be studied and the method and amount of their variations recorded. Notwithstanding that the professional book-maker, to whom the constantly changing and swelling bird lists are a nuisance, may call a halt, the work of elucidating these forms and formally cataloguing them must go on till all the facts of geographical variation are fully set forth. The practical necessities to be met in the case of the Horned Larks are the establishment of a sufficient number of geographical races to serve for the reception of specimens, due care being exercised to recognize by name no form not sufficiently differentiated to be capable of clear definition; added to which is the requirement that every form recognized shall be known to inhabit a definite geographical area. Of course it is not pretended that by the acceptance of the above forms the identification of every specimen of *Otocorys* taken within the limits of the area treated of becomes at once easy and certain. To suppose this, one must know little indeed of the manner in which species and varieties vary according as they approach and recede from the central points where they are most strongly marked.

On the contrary, in the case of the Horned Larks, one must expect to find in any considerable collection a number of specimens to assign which to their proper forms becomes a matter of nice judgment and of thorough understanding of the subject. It is believed, however, that by the above arrangement the Horned Larks can be treated as satisfactorily as any other variable species; certainly as easily as the Song Sparrows. Due allowance must of course be made for individual variation and for the occurrence of intermediate specimens—those reared in localities between the centres of two forms, and hence showing in varying degree the characters of either race. Very rarely indeed will specimens be found that display the characters of two forms so equally that it is impossible to decide to which form they most incline. By far the larger proportion of specimens are well

within one side or the other of the line. Below are appended brief comparative diagnoses of the above-mentioned forms, together with descriptions of such of them as have received new names.

It may be premised that it has been found very difficult to give in a few set words the differences of coloration that actually exist between the several races. The only satisfactory way of identifying birds so closely related as the Horned Larks is by a direct comparison of specimens.

COMPARATIVE DIAGNOSES.*

O. alpestris.—Size large; wing, 4.44; tail, 3.02; bill, .91; tarsus, .50. (Average of 19 males.) Nape, lesser wing-coverts, rump, etc., deep vinaceous. Habitat, Northeastern North America, Labrador, Greenland.

O. alpestris praticola.—Size smaller; wing, 4.17; tail, 2.93; bill, .83; tarsus, .46. (Average of 19 males.) Nape, lesser wing-coverts, rump, etc., pale vinaceous; back dead gray, in contrast; whole aspect generally paler than in true *alpestris*. Habitat, Upper Mississippi Valley and region of Great Lakes.

O. alpestris leucolema.—Size about as in *alpestris*; wing, 4.39; tail, 2.96; bill, .89; tarsus, .49. (Average of 12 males.) Chief character, palor; nape, lesser wing-coverts, rump, etc., very pale vinaceous; back gray in contrast. Throat white or with but faint trace of yellow. Colors are still paler in fall; occasionally at this season there is some yellow on the throat. Habitat, British America and Alaska; Western United States only in winter.

O. alpestris arenicola.—Size smaller than *leucolema*; wing, 4.27; tail, 3.35; bill, .84; tarsus, .48. (Average of 16 males.) The colors similar to the last, but throat always decidedly yellow. Fall specimens are brighter, with more yellow on the throat and forehead. Habitat, Great Basin of United States and Rocky mountains.

O. alpestris giraudi.—Wing, 3.78; tail, 2.57; bill, .80; tarsus, .43. (Average of 9 males.) General color above brownish gray; streaks of back very indistinct; yellow of throat bright; breast unusually pale yellow. Habitat, Eastern and Southeastern Texas.

O. alpestris chrysolema.—Wing, 3.98; tail, 2.91; bill, .83; tarsus, .46. (Average of 4 males.) Much deeper in color than *arenicola*. Nape, etc., deep pinkish rufous; throat deep yellow, but breast always white. Habitat, Mexico, possibly across the border into Southern Arizona and New Mexico.

O. alpestris rubeus.—Wing, 3.51; tail, 2.71; bill, .77; tarsus, .45. (Average of 11 males.) General color above, deep cinnamon or ferruginous; throat bright yellow; streaks on dorsum nearly obsolete. Habitat, California.

* The color descriptions are based on males in breeding plumage.

O. alpestris strigata.—Wing, 3.99; tail, 2.75; bill, .76; tarsus, .44. (Average of 2 males.) Coloration above very dark; much less cinnamon than in either *rubeus* or *chrysolaema*; back distinctly striped with dusky; breast usually yellow. In some fall specimens the yellow overspreads the entire under parts. Habitat, coast region of Washington Territory and Oregon.

DESCRIPTIONS OF NEW RACES.

O. alpestris praticola, var. nov. PRAIRIE HORNED LARK.

SUBSP. CHAR.—*Adult ♂ in Spring* (No. 90763, Richland Co., Ill., May 16, 1883; R. Ridgway): Posterior portion of crown, occiput, nape, sides of neck and breast, lesser wing-coverts, and shorter upper tail-coverts, light vinaceous; back, scapulars, and rump, grayish brown, the feathers with darker centres, becoming darker and much more distinct on the rump; middle wing-coverts light vinaceous terminally, brownish gray basally. Wings (except as described) grayish brown, the feathers with paler edges; outer primary with outer web chiefly white. Middle pair of tail-feathers light brown (paler on edges), the central portion (longitudinally) much darker, approaching dusky; remaining tail-feathers uniform black, the outer pair with exterior web broadly edged with white. Longer upper tail-coverts light brown, edged with whitish, and marked with a broad lanceolate streak of dusky. Forehead (for about .15 of an inch) yellowish white, this continued back in a broad superciliary stripe of nearly pure white; fore part of crown (for about .35 of an inch) deep black, continued laterally back to and including the ear-like tufts; lores, suborbital region, and broad patch on cheeks (with convex posterior outline) deep black; jugular crescent also deep black, this extending to the lower part of throat; chin and throat pale straw-yellow, gradually fading into white on sides of foreneck; anterior half of ear-coverts white, posterior half drab-gray, each portion forming a crescent-shaped patch. Lower parts posterior to the jugular crescent pure white, the sides of the breast light vinaceous, the sides similar but brown, and indistinctly streaked with darker. Upper mandible plumbeous-black, lower bluish plumbeous; iris deep brown; legs and feet brownish black. Wing 4.30, tail 2.85, culmen .47, tarsus .85.

Adult ♂ in winter (No. 95583, U. S. Nat. Mus., Gainesville, Texas, Feb. 12, 1884; G. H. Ragsdale): Similar to the spring plumage but darker, with the vinaceous somewhat obscured by grayish brown, the black by pale tips to the feathers, and yellow of throat slightly deeper. Wing, 4.20, tail, 3.00, culmen, .43, tarsus, .85.

Adult ♀ in spring (No. 90760, Richland Co., Ill., May 25, 1884; R. Ridgway): Above grayish brown, the pileum narrowly and distinctly, the dorsal region broadly and less sharply, streaked with dusky; nape, lesser wing-coverts, and shorter upper tail-coverts dull light vinaceous, the first very indistinctly streaked. A narrow frontlet and broad superciliary stripe (the latter very sharply defined above) dull white; lores, suborbital

region, and triangular patch on cheeks, dull brownish black, without sharp definition posteriorly; auriculars drab, the anterior half lighter; chin and throat white, the former faintly tinged with yellowish; jugular crossed by a distinct band of black, narrower and less intense in color than in the ♂; rest of lower parts white, tinged with pale brownish on breast, the sides (especially of breast) pale isabella-brownish, the flanks indistinctly streaked with darker. Wing 3.85, tail 2.50, culmen, .45, tarsus, .80.

Adult ♀ in winter (No. 85417, Mt. Carmel, Illinois, Dec. 20, 1874; S. Turner): Differing from the summer plumage in being browner, and with the streaks on the pileum less distinct, the whitish frontlet obsolete, and the superciliary stripe less sharply defined; the lores, suborbital region, and cheeks dull brownish, like the auriculars, the latter with an indistinctly lighter central spot; chin and throat dull buffy white, with a tinge of straw-yellow, changing to clearer buffy white on sides of fore-neck; jugulum with an indistinct blackish patch, the feathers broadly bordered with dull whitish. Whole breast and sides light isabella-color, indistinctly streaked with darker; abdomen and crissum white. Wing 3.75, tail, 2.45, culmen, .40, tarsus, .80.

Young, first plumage (♂, No. 90761, May 29, and ♀, No. 90792, May 16, Richland Co., Illinois; R. Ridgway): Above brownish black, the wings brownish; back dotted with sharply defined deltoid and rhomboid specks of white; pileum with similar but much more minute markings, and rump also varied in the same manner but spots rather more transverse than on the back. Lesser and middle wing-coverts brownish black, broadly tipped with buffy white; greater coverts dusky, edged with isabella-brown, and narrowly tipped with pale buff; prevailing color of closed remiges isabella-brown, the tertials, however, darker brown, bordered with buff, this bordered internally with a dusky submargin. Lower parts dull white, the jugulum, sides of breast, and sides, dull isabella-buff, spotted or clouded with dusky.

Measurements: wing, 4.30; tail, 3.08; bill, .80; tarsus, .45 (largest of 16 ♂).

Measurements: wing, 4.10; tail, 2.80; bill, .78; tarsus, .45 (smallest of 16 ♂).

O. alpestris arenicola, var. nov. DESERT HORNED LARK.

Male: Crown, nape, rump, lesser wing-coverts, and sides of body pale vinaceous, feathers of middle back dark brown centrally, darker towards the rump, not however taking the form of distinct streaks. Exterior surface of wing near shoulder very pale cinnamon. A broad crescent of black from forehead to behind the eyes, bordered by white below. Malar and pectoral patch black. Below white; tail black, except the two middle feathers, which are dark brown edged with pale cinnamon; outer tail feathers edged with white. Throat pale yellow.

Female: General colors similar. Feathers of occiput dark brown, medially like the back; throat showing lines only of yellow.

Measurements: wing, 4.25; tail, 3.00; bill, .88; tarsus, .48 (largest of 7 ♂).

Measurements: wing, 4.00; tail, 2.90; bill, .85; tarsus, .47 (smallest of 7 ♂).

Otocorys alpestris giraudi, var. nov. TEXAN HORNED LARK.

SUBSP. CHAR. — Smaller than *O. alpestris praticola* (the wing not more than 3.90 inches in the ♂), and deeper colored; the forehead and superciliary stripe yellow, or tinged with yellow, and the breast (immediately beneath the black jugular collar) often, if not usually yellow. Female much paler and grayer, with more distinctly yellowish throat than in *praticola*.

Adult ♂ in Spring, No. 73706, Corpus Christi, Texas; G. B. Sennett): Posterior half of crown, occiput, nape, sides of neck and breast, lesser and middle wing-coverts, and upper tail-coverts, grayish vinaceous; back, scapulars, and rump dull brownish gray, the back very obsoletely, the upper part of the rump distinctly, streaked with darker. A narrow frontal band (about .12 of an inch wide) continued back in a distinct superciliary stripe; chin, throat, and malar region, primrose-yellow; a broad patch on fore part of the crown (about .35 of an inch wide), ear-tufts, lores, oblique patch beneath the eyes, and jugular patch, black; middle portion of auriculars pale primrose-yellow, the terminal portion grayish brown. Breast, except laterally, pale primrose-yellow, minutely and very indistinctly flecked with pale grayish brown; rest of lower parts white. Wing, 3.90, tail, 2.55, culmen, .42, tarsus, .80.

Adult ♀ in Spring (No. 73707, Brownsville, Texas, G. B. Sennett): Above light vinaceous-gray, everywhere distinctly streaked with dusky; forehead (indistinctly) dull whitish, this gradually passing into a rather well-defined buffy white superciliary stripe; malar region, chin and throat, primrose-yellow; lores and suborbital region dusky, mottled with pale buffy grayish; auriculars pale pinkish buff, darker terminally. Jugulum with a distinct transverse patch of brownish black, the feathers narrowly tipped with dull whitish. Lower parts white, the breast somewhat tinged with pale vinaceous (especially laterally) and marked with deltoid spots of pale vinaceous-gray. Wing, 3.55, tail, 2.30, culmen, .40, tarsus, .80.

Measurements: wing, 3.90; tail, 2.60; bill, .72; tarsus, .38 (largest of 8 ♂).

Measurements: wing, 3.57; tail, 2.50; bill, .82; tarsus, .40 (smallest of 8 ♂).

In a series of 17 specimens all from Texas, the characters of this form as given above are remarkably uniform. Of eleven adult males, only four are without yellow on the breast; in the same number it is very distinct, being almost as deep as the color of the throat, while in three it is paler, though distinctly indicated. In the coloration of the upper parts there is no variation worthy of note, except in the width of the yellow and black bands on the top of the head, which vary to a greater or less degree in

all the races. Six adult females, in spring plumage, are all so nearly alike that the description given above would apply equally well to all of them.

O. alpestris rubeus, var. nov. RUDDY HORNED LARK.

SUBSP. CHAR.—Adult ♂ (Stockton, California, No. 76599, L. Belding): Occiput, hind neck, rump, upper surface of wings, and sides of body deep cinnamon or ferruginous; feathers of back grayish brown, not taking the form of distinct streaks. Superciliary stripe pale yellow. Belly and under tail-coverts white; throat bright primrose-yellow. Sides of breast deep cinnamon, in strong contrast with the white. Crescent, malar and pectoral patches as in other forms. **Female** (No. 82413, Santa Rosalia Bay; L. Belding): Upper parts light grayish cinnamon, brighter on lesser wing-coverts and nape. Crown, back, and upper part of rump broadly streaked with dark brown. Superciliary stripe buff-yellow. Chin and throat clear buff-yellow. Jugular patch and patch on breast brownish black; rest of under parts dull white, tinged on sides of breast with light grayish cinnamon.

Measurements: wing, 4.10; tail, 2.95; bill, .80; tarsus, .42 (largest of 11 ♂).

Measurements: wing, 3.60; tail, 2.60; bill, .75; tarsus, .42 (smallest of 11 ♂).

O. alpestris strigata, var. nov. STREAKED HORNED LARK.

SUBSP. CHAR.— Most like *chrysolaema*, but differing in much darker and less cinnamomeous coloration above, with the back broadly and distinctly streaked with dusky; the lower parts either entirely yellow, or with the breast yellow (very rarely destitute of yellow).

Adult ♂, spring plumage (No. 8734, U. S. Nat. Mus. Ft. Steilacoom, Puget Sound, April 15, 1856; Dr. Geo. Suckley, U. S. A.): Upper parts, in general, rather deep vinaceous, the back, scapulars, and rump, however, more grayish brown, very broadly and conspicuously streaked with brownish black. Lower parts pale yellow, or yellowish white, becoming nearly pure white on flanks and crissum. The usual black areas on head and jugulum. Wing, 3.80; tail, 2.60; culmen, .45; tarsus, .75.

Adult ♂, in winter (No. 80477, Yuba Co., California, February 1877; L. Belding): Similar to No. 8734, but upper parts more obscured by brownish (the dark streaks of dorsal region very heavy and distinct, however), and yellow of lower parts much deeper, the whole surface posterior to the jugular patch being light primrose-yellow, except the crissum, which is white; black jugular patch and that on fore part of crown slightly broken by very narrow pale yellowish tips to feathers. Wing, 4.00; tail, 2.80; culmen, .40; tarsus, .80.

Adult ♀, in spring (No. 8733, U. S. Nat. Mus. Ft. Steilacoom, March 20, 1856; Dr. Geo. Suckley): Lesser wing-coverts bright cinnamon; mid-

idle wing-coverts and upper tail-coverts paler, more vinaceous cinnamon; rest of upper parts, including top of head, rather light fulvous-grayish, the pileum narrowly but very distinctly, the back, scapulars, and rump very broadly and sharply, streaked with brownish black; nape more inclining to vinaceous, and obsoletely streaked. Lower parts pale buffy yellow, relieved by a large and distinct jugular patch of black, slightly broken by narrow buffy tips to the feathers. On the fore part and sides of the crown the black streaks show a tendency to coalescence, thus strongly indicating the solid black area of the adult male; the black on lores and cheeks is also strongly indicated. Wing, 3.65; tail, 2.40; culmen, .45; tarsus, .80.

Adult ♀, in winter (Albany, Oregon, Jan. 22, 1881; Cab. H. W. Henshaw). Above more decidedly brownish, with the streaks more suffused; lesser wing-coverts much duller cinnamon. Lower parts (posterior to the black jugular patch) with only the breast yellow, this clouded with rather distinct spots (some of deltoid shape) of dull grayish olive, or drab. Wing, 3.60; tail, 2.40.

In connection with my study of the Shore Larks I should not forget to mention the assistance I have received from friends. My thanks are due to the following gentlemen who have kindly placed their series of Shore Larks at my disposal: Mr. William Brewster; Mr. Geo. B. Sennett; L. Belding; W. Bryant; C. F. Batchelder; H. K. Coale; T. S. Roberts. My especial thanks are due to Mr. Ridgway, whose advice and substantial assistance I have had throughout the preparation of the paper.

BICKNELL'S THRUSH.

BY REV. J. H. LANGILLE.

OFF the south-west end of Nova Scotia, opposite Yarmouth and Shelburn Counties, is a large number of islands — one for every day in the year, they say. On leaving the harbor of the city of Yarmouth, off to the westward and well out at sea, are Green Island and Garneet Rock. Then comes the Tusket Islands, many in number, and of varied size, form and appearance; some being partly cultivated, some wholly wooded and the outermost almost as smooth as a lawn; these last are called the Bald Tuskets. Farthest out at sea, and very nearly on an extend-

ed line between the two counties mentioned, are the Mud Islands and Seal Islands. These are almost entirely covered with a low growth of evergreens—black spruce and balsam fir. Except the Robin, the Song Sparrow, the Snowbird, and a few Redstarts and Winter Wrens, almost the only small land-birds breeding here are the Black-poll Warbler and Bicknell's Thrush—the last two being very abundant.

This Thrush (the Black-poll I have described) was wholly new to me. My attention was first arrested by its call or alarm note, which sounded like *cree-e-e-e-eep*, or *quee-a*, or *cree-e-e-ee*, on a rather fine, high key. It had some resemblance to the call of Wilson's Thrush, but was unmistakably different; and as Mr. Brewster has noted (Bull. N. O. Club, Vol. VIII, p. 12), is very particularly different from the sharp liquid *pip* or *peenk* of the typical Olive-back. The song, *Tsiderea, tsiderea, tsidirea*, sometimes *tsidirea, rea, tsiderea*, or some other modulation of the same theme, is similar in tone to that of Wilson's Thrush, but more slender and wirey, and therefore not nearly so musical and grand. In the solitude of its evergreen islands, however, this bird is by no means an inferior songster, the sibilant tones of its voice being finely relieved by certain more prolonged and liquid vibrations. A careful examination satisfied me that the bird was Bicknell's Thrush, lately identified in the Catskill and in the White Mountains, and named in honor of its discoverer. It was so abundant, and not particularly shy for a Thrush, that I had the most ample opportunity for the study of its habits; and several specimens were secured and retained. Next to its lesser size, in structural peculiarity, is its slender, depressed, and finely curved bill, compared with which that of the typical Olive-back seems thick and clumsy. While singing, which occurred throughout the day, but more especially in the evening twilight and early morning, the bird delighted to perch in the top of the evergreens, often on the very tip, where its bright, brown figure, with elevated head, was quite conspicuous. On the ground and in taking its food, its habits were precisely like those of other Thrushes.

To find the nest of this species was my great desideratum; and though the bird was so numerous, it was by no means an easy task. Many an hour did I thread my way through almost impenetrable evergreen thickets before I could secure the much

coveted prize. At last my search was rewarded by nests in considerable numbers, and all as nearly alike in location, structure, and materials, as it is possible for nests to be.

Placed a few feet from the ground, and against the trunk of an evergreen tree, it was composed externally of various kinds of mosses, including a few fine sticks, weed-stems and rootlets, and was lined with fine grasses well bleached; so that, outside, the nest was as green as a bunch of fresh moss, and the inside was light brown. The eggs, .87 \times .63 of an inch, are light bluish-green, speckled with brown.

About the Mud and Seal Islands dense fogs prevail almost continually throughout the summer. This excessive moisture, so productive of mosses, causes the moss in the walls of the Thrushes' nests to grow; hence the nests of previous years, well protected from the weather by dense evergreens, become elegant moss-baskets finely ornamented within and without with living cryptogams. I saw a number such, which looked as if they had grown *in situ* on the trees.

Some 7 inches or a little less in length, Bicknell's Thrush, as above found, is uniform deep olive-brown above; the sides of the white under parts being ashy-gray, and the sides of the neck and the upper part of the breast but slightly tinged with buff; while the neck and breast-spots are not so large as in the typical *swainsoni*.

To my eye the bird does not appear so large as the other Thrushes, and the bill is unmistakably differentiated, both by its slenderness and by its delicately carved outline.

BIRDS OF THE LOWER URUGUAY.

BY WALTER B. BARROWS.

(Continued from p. 113.)

2104

141. **Phalacrocorax brasilianus (Gm.). CUERVO DEL AGUA (WATER CROW).**—An abundant resident at Concepcion on all streams, large and small. Usually met with in pairs or small

parties at this place, while at Buenos Aires flocks of hundreds were frequently seen. It was not met with south of Azul. Of its breeding habits I learned nothing.

142. *Ardea cocoi* Linn. GARZA (HERON).—A rather common resident, but most abundant in winter. Probably breeds. Not met with on the pampas, where, however, it does occur in abundance at some seasons.

143. *Ardea egretta* Gm. GARZA BLANCA (WHITE HERON).—Abundant; resident; breeds. Seen at every point visited, even as far south as Carhué, where it was abundant early in April, the coldest season.

144. *Ardea candidissima* Gm. GARZA BLANCA CHICA (LITTLE WHITE HERON).—Less abundant than the preceding, but with the same distribution. Doubtless breeds at Concepcion.

145. *Ardea sibilatrix* Temm.—Not common; shy, and solitary. Seen only a few times, in November. Though much resembling the Night Heron, they were active by day, and when disturbed flew rapidly away from the streams and swamps towards the dry woods and sand-hills. Their flight is much quicker than that of any other Heron of my acquaintance.

146. *Butorides cyanurus* (Vieill.).—Abundant, but only in spring and summer, when it is so unsuspicious that you may frequently row past it in a boat at twenty-five feet distance without disturbing it in the least. I saw it only at Concepcion, where it undoubtedly breeds.

147. *Ardetta involucris* (Vieill.).—This tiny Heron, so similar to our own *A. exilis*, seems to be a rather common summer resident from Brazil almost or quite to Patagonia. Indeed it may remain the whole year round in the marshes of the pampas, for while I only met with it in summer at Concepcion I several times saw it at Carhué in April, long after winter had fairly set in. It is rarely seen, even where most abundant, and it was almost impossible to get a second sight at one which had been once started from the reeds. I did not succeed in finding its nest.

148. *Nycticorax gardeni* Gm.—Abundant; resident; probably breeds, but I did not meet with its nest. Precisely similar in all its habits to the same bird here.

149. *Ciconia maguari* (Gm.). CIGUÉÑA (STORK).—A rather common resident at Concepcion; often seen standing statue-

Ardeidae
1372

1375

1384

1413

1425

1430

Ciconiidae

1446

like on some slight rise of ground in the distance, but only with the greatest care and under the most favorable circumstances is it possible to get within shot. Of its nesting habits nothing could be learned.

1332

Tantalus loculator *Linn.*—Abundant in summer, commonly in flocks. While feeding they were very unsuspicious and in one case it was only after four shots and five deaths that the remainder of a flock of thirty took lazily to their wings and sought safer ground. During clear, hot days they were often seen to rise in spirals to an immense height and continue floating in circles for hours.

1340

Plegadis falcinellus (*Linn.*).—The common name, *Bandurria*, of this abundant bird alludes to its custom of associating in large numbers, forming *bandadas* or flocks.

At Concepcion the birds are resident and during winter and spring I sometimes saw them in flocks of one or two thousand, often feeding amicably side by side with several species of Ducks, Plover, and Snipe.

1362

Theristicus melanopis (*Gm.*).—A small flock was met with on the pampas between Olavarria and Azul, April 12, 1881. There were only twelve or fifteen birds in the flock and they allowed the diligence to pass within about one hundred yards without showing any uneasiness.

1481

Platalea ajaja (*Linn.*). **ESPAT'ULA** (**SPATULA**).—Not very abundant. Seen usually singly or in pairs, and only in spring or autumn. A slightly wounded one which I kept in my room for a day or two seemed unable to walk without stooping forward, swaying the body from side to side, and striking the bill smartly on the floor. The most southern record which I have is Bahia Blanca, February 17, 1881, at which time a single pair was seen.

1502

Phoenicopterus ignipalliatus (*Geoff. et d' Orb.*). **FLAMENCO** (**FLAMINGO**).—Seen only at Puan, March 27 to April 1, 1881. A flock of thirty or forty frequented a small, alkaline pond at that place during our stay, and their flesh formed a part of our regular fare.

Chauna chavaria (*Linn.*). **CHAJÁ** (the common cry of the bird).—This is the heaviest bird of the country, except the Ostrich, and its flesh is hardly inferior to that of the Turkey. It abounds in the marshes about Concepcion, and was met with on

the pampas to about fifty miles south of Buenos Aires. It is almost invariably found in pairs throughout the year.

In spite of its great weight (25 to 40 pounds) it rises quickly by vigorous flapping, and if there be a breeze soon rises in spirals like an Eagle and floats gracefully away. On the ground they walk with a deliberate gait, recalling that of a Turkey-cock, and they can swim well if forced to it, though they usually prefer to use their wings.

With regard to their breeding habits I could obtain little reliable information from the natives, but I believe they nest on the ground in marshes and lay white eggs.

One shot on December 11, 1880, was standing in the edge of tall grass on the border of a pool and did not see me until I fired. He flew upward a few yards and then fell, and on picking him up I found that he was ruptured across the abdomen so that the bowels protruded in a large mass, evidently the result of the sudden effort to rise.

156. *Chloéphaga magellanica* (Gm.). *GANSO DE LA SIERRA* (MOUNTAIN GOOSE).—Seen frequently at Carhué in April, but not elsewhere. Probably a second species (*C. poliocephala* Gray) was also seen, as the two species are usually found together, but we took none.

157. *Cygnus nigricollis* (Gm.). *CISNE* (SWAN).—This species was noted in the salt 'laguna' Epecum, at Carhué, and also at one or two other points on the pampas. I doubt if it ever occurs at Concepcion, though another species (*C. coscoroba*) sometimes does, if the reports of the natives are to be credited.

158. *Querquedula cyanoptera* (Vieill.). *PATITO* (LITTLE DUCK).—This name is likewise given to the other species of *Querquedula*, as well as to *Erismatura*. This is an abundant species in the streams of the southern pampas in winter, but is not found on the Uruguay, so far as I know.

159. *Querquedula brasiliensis* (Gm.).—This beautiful bird is rather abundant at Concepcion during the cold weather, and a few probably remain to breed, as I noticed a pair as late as December 24, 1880. Unlike most of the other Ducks, it was not often found in flocks, though occasionally a few would mingle in flocks of other species.

160. *Querquedula flavirostris* (Vieill.).—Only seen on the pampas, where it was one of the commoner Teal.

Anatidae

1543

1557

1616

1628

1626

1618
161. **Querquedula versicolor** (*Vieill.*). PATITO (LITTLE DUCK).—Resident at Concepcion, where a few probably breed; but far less abundant in summer than in winter, when it is the commonest and tamest of all the Ducks found there. We found it abundant on the pampas wherever there was water.

1593
162. **Dafila spinicauda** (*Vieill.*).—To this species I refer with some hesitation a *Dafila* which was quite abundant at Concepcion during June, 1880, and was afterwards met with several times on the pampas (Arroyo Pigué, March 23, 1881; Puan, March 28; Carhué, April 6). Unfortunately no skins were saved.

1593
163. **Dafila bahamensis** (*Linn.*).—A single specimen was killed at Carhué, April 7, 1881.

164. **Mareca sibilatrix** *Poëpp.*—First met with near Bahia Blanca in February, 1881, when a few were observed—all moulting. Two months later we found it abundant in all the streams and pools of the pampas near Puan and Carhué.

1639
165. **Spatula platalea** (*Vieill.*).—Only met with on the pampas and in winter. In the salt lakelets of Puan and Carhué it was by far the most numerous of the Ducks, being often seen in flocks of one to two hundred.

1656
166. **Metopiana peposaca** (*Vieill.*). PATO (DUCK).—A Duck the size of the Mallard, and somewhat resembling it in color and flesh. Very abundant on the Uruguay in times of freshet and probably a few breed about Concepcion, as they certainly stay there all summer. It was met with in greater or less abundance at every point visited, and was usually found in flocks of from ten to fifty individuals.

1684
167. **Erismatura dominica** (*Linn.*). PATITO (LITTLE DUCK).—Abundant in the streams of the pampas, associated with *Podiceps rollandi*, Coots and Gallinules. Usually seen in small parties of three to six individuals, which rarely fly, always dive at the flash of a gun, and spend at least half their time, when undisturbed, under water.

891
168. **Columba picazuro** *Temm.* PALOMA DEL MONTE (WOOD PIGEON).—The largest and least common of the Pigeons observed. Sometimes seen singly, but more often in flocks of twenty-five to two hundred or more individuals. Seen only in woods in the vicinity of Concepcion. Most abundant in winter.

889
169. **Columba maculosa** *Temm.* TORCAZ (RING DOVE).—A common resident at Concepcion, where it is found in large

flocks through the year. Many nests were found early in November, all placed in trees in dry woods, and only ten or fifteen feet from the ground.

Each nest contained a single white egg. Either the variation in size of the eggs of this species is very great, or else a few of the preceding species were breeding with them; for several eggs were found which were very much larger than the others. I failed, however, to detect a single specimen of *C. picazuro* among the birds which left the trees as we approached. This species was again met with at Carhué.

170. **Zenaida maculata** (*Vieill.*). PALOMA (DOVE).—
Abundant everywhere in thinly wooded districts but not on the bare pampas. At Concepcion it was abundant throughout the year in small flocks, but I failed to discover its nest or eggs.

171. **Columbula picui** (*Temm.*) PALOMITA (LITTLE DOVE).—This tiny Dove was only met with in abundance in wooded regions, but appears to be gradually spreading over the pampas wherever man carries shrubs and trees. It nests fearlessly in the gardens at Concepcion, and even in the orange trees which border the public square, laying always two white eggs. I think two broods are often reared in a season, but not more. Yet I found occupied nests from November 17, until April 13. At the latter date many of the summer birds had gone north for the winter and the nights were becoming frosty. I found the nests most frequently, however, during January and February.

172. **Leptoptila chalcauenia** *Scl. et Salv.* PALOMA (DOVE).—Only seen at Concepcion, where it is an abundant resident. It is almost constantly on the ground, singly or in pairs, never more than three or four together, and usually close to the border of some stream or marsh. When alarmed it takes to the thickets, but very soon seeks the ground, as if it could not endure to perch longer. Yet the only nest I found was placed among the matted branches of some bushes, about seven feet from the ground. The two white eggs were more nearly spherical than are eggs of any other Dove of my acquaintance. During flight the species is easily recognized by the rufous under-wings.

173. **Penelope obscura** *Wagl.* PAVO DEL MONTE (WOOD TURKEY).—Limited to the borders and islands of the river, where in heavy growths of timber it is not uncommon, though rarely seen. It has a very harsh, cackling cry, and is said

to build a bulky nest in trees and lay white, unspotted eggs. Its flesh is much esteemed, and the bird is easily domesticated.

174. **Rallus maculatus** *Bodd.*—The only specimen obtained was one which had died in captivity, but was supposed to have been taken near Concepcion. More probably it was brought down the river by boatmen from Paraguay or Brazil.

175. **Rallus antarcticus** *King.*—Rather common at Carhué early in April, where the only specimens were obtained. At Concepcion I several times started a bird much resembling this, and which I could not then name. It may have been this bird, or possibly the young of the following species.

176. **Rallus rythryynchus** *Vieill.*—Called *Gallineta chica*, or little Rail, at Concepcion, where all the Rails were called *Gallinetas*, though the word is only used properly to indicate the European Sandpiper (*Tringa hypoleuca*). This beautiful Rail—about the size of the Virginia Rail—is the most abundant bird of its family at Concepcion, as well as on the pampas. Resident through the year, it seems to be equally abundant at all times, and often in mid-winter, while watching in the edge of the reeds for passing Ducks, I have had half a dozen of these restless, inquisitive little birds in sight at a time. The colors of bill and legs vary very much according to the season. In breeding livery they are among the prettiest of the waders. Although I searched often and long for the nest, I found but one (Oct. 2, 1880), and did not actually catch the bird on that one. The eggs were but two, pure white, with a very few, small, brown spots. The nest was precisely like that of a Virginia Rail, and was placed in a tussock of grass in the middle of a half submerged swamp.

On the Pigué, where this bird was abundant, I shot one which lodged on some slender twigs just above the water. The blood trickling from its bill soon attracted some fish, and after one or two trials a large fish, like a catfish, jumped up nearly a foot and dragged the bird under before I could reach it.

177. **Aramides ypecaha** (*Vieill.*) **GALLINETA GRANDE** (BIG RAIL).—A noisy bird, as large as a hen, and with some other resemblances to that bird; for example, carrying the tail over the back, running some distance before using the wings, etc.

This is not a rare bird at Concepcion, but from its shyness, and the nature of its favorite ground, it is not an easy bird to secure.

It seems to be equally abundant summer and winter, and was usually found in pairs, which vanished into the depths of some bushy morass on the instant of discovery, and could not again be started. When surprised several rods from cover I have seen them fly well after running half the distance to the cover, but usually they trust entirely to their legs—and indeed they rarely wander far enough from the swamps to make their wings of much use to them. Of their breeding habits I learned nothing.

178. **Gallinula galeata** (Licht.). **GALLINA DEL AGUA** (WATER HEN).—Abundant at Concepcion, where it is resident and breeds. On Sept. 29, 1880, I saw young following their mother, and two weeks later shot a female just ready to lay. Early in March they were moulting and unable to fly.

This species was abundant at the southernmost points visited, even in cold weather.

179. **Fulica armillata** Vieill. **GALLINA DEL AGUA** (WATER HEN).—Not uncommon at Concepcion during cold weather; much more abundant, however, further south.

180. **Fulica leucoptera** Vieill.—With the preceding species at Puan and Carhué in March and April, but not at Concepcion.

181. **Aramus scolopaceus** (Gm.). **GALLINETA GRANDE** (BIG RAIL).—An abundant resident in the neighborhood of Concepcion in all the marshes and on most of the small water-courses wherever impeded with rushes. They seem to feed almost exclusively on the large, fresh-water snail (*Ampullaria*), and the bills of many examined showed a perceptible lateral curve at the end, which I suppose is due to the constant wedging of the bill in the apertures of these shells.

The birds are by no means wary, but once started they are likely to fly half a mile or more before settling, unless there is good cover close at hand.

182. **Parra jacana** Linn. **GALLINETA** (RAIL).—Hardly to be called abundant at Concepcion, yet certainly not rare, one or more pairs breeding in almost every marsh where there was some clear water and floating vegetation. I never tired of watching them as they ran about apparently on the very surface of the water, clucking to each other and displaying the pea-green wings, cinnamon body, and yellow frontal shield at every short flight. I found no nests, but saw two young just able to fly on March 5, though I presume these may have been from a second nest.

Gallinulidae

241

259

262

Rallidae
147

Paridæ
275

1079

183. **Vanellus cayennensis** (Gm.). TERO-TERO (their common note).—A beautiful bird, but too well known to need any description. Noisy, quarrelsome, always alert and suspicious, it is the bane of all water-fowl shooting in the marshes, and being itself unfit for the table the sportsman could doubly afford to spare its presence.

It nests at Concepcion often before the middle of August, though eggs may sometimes be found as late as December 1. The eggs are three or four in number, light buff, heavily spotted with deep brown and black, and resemble very closely the eggs of the European Lapwing, and, like these latter, are much sought for as delicacies for the table. We found this species abundant on the pampas in most places, but saw none at Carhué during our stay of ten days there.

(To be concluded.)

RECENT LITERATURE.

The British Museum Catalogue of Birds.—Two volumes* of this great work have appeared during the last year—Volume VII, by Mr. Sharpe, concluding the family Timeliidæ, and Volume VIII, by Dr. Gadow, treating of the Titmice, Shrikes, Tree-Creepers, and Nuthatches.

“The family *Timeliidæ*, an account of which was commenced in the preceding volume [Vol. VI], is here [Vol. VII] completed, with the enumeration and description of 687 species. Of these no less than 548 are contained in the collection of the British Museum. . . . Out of 163 genera described in the present volume only 14 are unrepresented in the British Museum.” The species of this group are all, except one, inhabitants of the Old World, throughout which they are very generally distributed. They are subdivided into the following ten ‘Groups,’ namely, I, Thamnobiæ, with 24 genera and about 90 species;

* Catalogue of the Birds in the British Museum. Volume VII. Catalogue of the Passeriformes, or Perching Birds. Cichlomorphæ: Part IV, containing the concluding portion of the Family Timeliidæ (Babbling Thrushes). By R. Bowdler Sharpe, London: Printed by order of the Trustees. 1883. 8vo, pp. i-xvi, 1-698, pl. i-xv, and numerous woodcuts in the text.

Volume VIII. Catalogue of the Passeriformes, or Perching Birds. Cichlomorphæ: containing the Families Paridæ and Laniidæ (Titmice and Shrikes), and Certhiomorphæ (Creepers and Nuthatches). By Hans Gadow, Ph.D. London: Printed by order of the Trustees. 1883. 8vo, pp. i-xiii, 1-386, pl. i-ix, and woodcuts in the text.

II, *Bradypteri*, with 19 genera and 47 species; III, *Eremomelæ*, with 11 genera and 46 species; IV, *Cisticolæ*, with 14 genera and about 93 species; V, *Chamææ*, with the single species, *Chamaea fasciata* of Western North America; VI, *Henicuri*, with 3 genera and 11 species; VII, *Crateropodes*, with 39 genera and 192 species; VIII, *Timeliæ*, with 34 genera and 96 species; IX, *Liotriches*, with 17 genera and 56 species; and X, *Accentores*, with 2 genera and 16 species.

The 'family' *Timeliidæ* has been often characterized as the ornithological 'waste-basket'—the receptacle of numerous Passeriform birds whose obscure relationships prevent their satisfactory reference to other well-marked family groups, and which lack among themselves any great degree of coherence, or afford as a whole any satisfactorily diagnostic characters. Neither does the group, says Mr. Sharpe, in the present state of our knowledge of the species hitherto 'referred or allied to the typical *Timeliidæ*,' appear to be susceptible of division into 'well-defined or definable sub-families.' "Hence," he adds, "the views on their systematic arrangement are of necessity subject to frequent changes; and my own, with those of the author of the fifth volume of the present 'Catalogue' [Mr. Seehoefm], have consequently undergone considerable modification since the commencement of the printing of the previous volume. I have been obliged to depart from the scheme of classification there proposed; and I have found besides, after a more lengthened study of these birds, that the family, as at present constituted, contains many forms which are not real *Timeliidæ*." With this admission before us it would be ungracious to dwell upon the heterogeneity of the group, till we are able to offer some better scheme of arrangement. While many ornithologists may not agree with the author in his allocation of certain forms, none, we fancy, can feel otherwise than deeply grateful to him for the very useful monograph he has placed at their disposal.

Volume VIII treats of groups having a much wider geographical range than the 'Timeliidæ,' and embrace many American species. Before, however, passing to details, we will venture a few criticisms upon the character of the work in general, mainly apropos of the present volume, but equally applicable in many respects to all the volumes of the series. While recognizing that brevity of treatment is a necessity of the case in such a series of hand-books, it is to be regretted that in many cases the reader is left in the dark as to the reasons that have lead the authors to the conclusions they have adopted, even in cases where a very few additional lines would have been sufficient to set forth the much desired information. We have already adverted on other occasions, in reviewing volumes of this series, to the absence of generic diagnoses, and of comparisons of allied forms, beyond, in most cases, what may be drawn from the 'keys' to the genera and species. These, while proper enough in their way, and a great convenience—indeed indispensable as the work is constructed—fail by a long distance to supply these deficiencies. Again—and also as we have previously remarked—it is difficult to see what rule, if any, is adopted in distinguishing species from subspecies, or subspecies

from 'races,' excepting in the case of Mr. Seebold's volume. The fact of known or supposed intergradation or its absence, as regards subspecies, is rarely referred to, a subspecies being apparently, and sometimes avowedly relegated to that rank when, in the opinion of the author, it differs too little from another to take the rank of a 'species'; on the other hand, hitherto currently received species are thrown together, although known to present constant, and sometimes well-marked differences, unless the authors have themselves made discoveries which they do not deem it necessary to make known to their readers—and this, too, in cases where their material is but a tithe of what has passed under the eyes of authorities equally entitled to consideration who have published views directly the reverse of their own. It further sometimes happens that the off-hand statement is made that several specimens of a wide-ranging species in the series in the British Museum differ in certain ways from the rest of the series. It would at least satisfy curiosity in such cases if it were stated whether or not these aberrant specimens come from any particular locality or region, or whether the difference is purely individual. Antithetical comparisons as regards size and coloration of forms all too summarily disposed of would oftentimes be well worth the slight additional space such statements would require.

Dr. Gadow's volume opens with the Paridæ (including the Regulidæ *auct.*), of which 10 genera and 82 species are recognized, 48 of the latter being referred to the genus *Parus* alone. Of *Parus* thirteen synonyms are given, two of which (*Melanochlora* and *Lophophanes*), however, are recognized in a subgeneric series. Of a few species local races are recognized, of others, subspecies, and in several both local races and subspecies. Thus *Parus ater* has an 'English,' a 'Chinese,' and a 'Himalayan' race, and in addition three 'subspecies,' respectively from the Caucasus, Eastern Turkestan, and Southern Persia. To the North American *Parus atricapillus* is referred *P. carolinensis* as a subspecies, no other subspecies or races being recognized. 'Subspecies' *borealis* of *Parus palustris* is subdivided into 'Western' and 'Eastern' races. Our *Psaltripari* are referred to the Old World genus *Acredula*; *Auriparus* is referred to Cabanis's African genus *Anthoscopus*, which is here ranked as a subgenus of *Ægithalus*. *Panurus*, although included in the Paridæ, is said (p. 3) not to belong to the family, "but perhaps to the Fringillidæ." *Leptopæcile*, treated under Regulinæ, the author says "does certainly not belong to the Paridæ, but is most closely allied to *Phylloscopus*."

The Laniidæ embrace five subfamilies — *Gymnorhininæ*, *Malaconotinæ*, *Pachycephalinæ*, *Laniinæ*, and *Vireoninæ*. The species of the first three are all Old World; those of the last, American. *Lanius* (covering the genera *Fiscus*, *Enneocotonus*, *Phoneus*, *Otomela*, etc., of authors) includes 47 species and 3 subspecies, besides various 'races.' Our 'excubitoroides' is unreservedly (and judiciously) referred to *L. ludovicianus*, while the problematical 'robustus' is accorded specific rank. The Vireos are all referred to *Vireo*, but *Vireosylvia* and *Lanivireo* are recognized in a subgeneric sense. The other genera of the Vireonine group stand as usually

treated; the principal changes in the group as a whole are the degredation of a few commonly recognized species to subspecies, and apparently on wholly reasonable grounds.

The family Certhiidae includes the Nuthatches as well as the Tree-Creepers. To *Certhia familiaris* are referred unconditionally all the Tree-Creepers of Europe and North America, except *mexicana*, which ranks as a subspecies, with a range extending northward along the Pacific coast to Oregon. The birds from Vancouver Island are said to be 'like those from Canada,' yet in the list of specimens cited under 'B. *C. americana*' is one from 'Vancouver Island.' While *C. familiaris* extends eastward in the Old World to Japan, three other species of *Certhia* are recognized as occurring in the Himalayan region. *Sitta carolinensis aculeata* is referred to *S. carolinensis*, with the remark, "the difference between an eastern form (*S. carolinensis*) and a western variety (*S. aculeata*) is said to be that the western individuals have the bill slightly larger [sic], and that they have the greater wing coverts [sic] less black than the true *S. carolinensis*." And yet the author cites examples from the Rocky Mountains, California, and Mexico! *Sitta villosa* Verr. et auct., of Northern China, is made a subspecies of *Sitta canadensis*! It is said to be "scarcely specifically distinct from the widely ranging North American *S. canadensis*," although it lacks the 'black patch on the sides of the neck' present in *canadensis*, these parts being 'creamy whitish' in *villosa*. Is this case to be taken as a test of the author's idea of 'subspecies'? And if *Sitta carolinensis aculeata*, with its slender bill and indistinct black markings on the inner secondaries (not 'greater coverts,' which in both forms are clear ashy blue) is not to be recognized as a 'race,' what are we to infer is his standard for a 'race'?

In general, Dr. Gadon inclines to the recognition of comprehensive groups, from families downward. His reduction in genera and species from the hitherto current status is very marked. We believe the tendency to be a wholesome one, and that, in the main, his reductions are made with reason, but there are a few cases where we should hesitate strongly before accepting his rulings, as regards both genera and species. His subspecies are obviously what in this country we should consider as distinct though closely allied species, in most cases no intergradation being shown, while in some, from the nature (geographical) of the case, intergradation would be impossible. On the other hand, his 'races' correspond to what we should rank as subspecies. In other instances, geographical variation is pointed out, but the differentiated forms are not recognized in nomenclature, although apparently well-marked, being, in fact, forms which we should regard as subspecific and entitled to nomenclatural recognition. Perhaps, however, he here errs not more on the side of consolidation than we on this side of the water have been at times prone to do in the direction of undue subdivision.

In method of execution, the present volume is strictly in accord with its predecessors, and is neither less valuable nor less welcome.—J. A. A.

Coues's Key to North American Birds, Second Edition.*—The twelve years which have passed since the publication of the first edition of the 'Key' have been marked by unprecedented activity and progress in North American ornithology—sufficient, indeed, to render antiquated any textbook on our birds, however well up to date in the year 1872. In preparing the second edition of the 'Key,' the author has not only attempted to bring the work abreast of the present phase of the subject, but has taken the opportunity to remedy the defects of the first, and to greatly enlarge the scope of the work by the addition of much new material, covering branches of the subject wholly omitted in the old 'Key.' While in bulk the book seems scarcely larger than the one that has so long been a familiar and useful companion alike to the amateur and the professional ornithologist, it contains more than twice as many pages, and probably four times more matter, in consequence of the use of smaller type and thinner paper. Nearly 350 new illustrations have been added, a few of them replacing old ones now discarded. About fifty—drawn by Mr. Edwin Sheppard and engraved by Mr. H. H. Nichols—have been prepared expressly for the present edition, besides some thirty or more original anatomical drawings, made by Dr. R. W. Shufeldt, U. S. A., and many cuts borrowed from various duly accredited sources.

The work, as it now stands, is divided into four 'Parts,' as follows: 'Part I. Field Ornithology.' This is a reprint, with slight modifications and the addition of a few illustrations, of the author's well-known work of this title originally published in 1874. 'Part II. General Ornithology.' This is the introductory matter of the old 'Key' greatly amplified and with many new illustrations, but especially through the addition of nearly 100 pages of entirely new matter on the anatomy of birds. 'Part III. Systematic Synopsis of North American Birds.' This is the 'Systematic Synopsis' of the old 'Key' greatly augmented through much fuller treatment of the subject, the diagnoses of the various forms treated being much extended, and to which is added a concise epitome of the biography of each. 'Part IV. Systematic Synopsis of the Fossil Birds of North America.' This is the 'Appendix,' of the old 'Key' brought down to date. As before, it has been revised by Professor O. C. Marsh. The number of species and varieties of living birds now admitted is about 900; of fossil species, 46.

Part II, the author characterizes as "a sort of 'Closet Ornithology'" as distinguished from a 'Field Ornithology'; being a treatise on the classification and structure of birds, explaining and defining the technical terms used in ornithology,—in short, teaching the principles of the science and

* *Key to North American Birds.* Containing a concise account of every species of living and fossil bird at present known from the Continent north of the Mexican and United States boundary, inclusive of Greenland. Second Edition, revised to date, and entirely rewritten: with which are incorporated General Ornithology: an outline of the structure and classification of birds, and Field Ornithology: a Manual of collecting, preparing, and preserving birds. By Elliott Coues, M. A., M. D., Ph. D., Member of the National Academy of Sciences, etc., etc. Profusely illustrated. Boston: Estes & Lauriat, 1884. Royal 8vo. pp. xxx + 863, 1 col. pl., and 563 woodcuts.

illustrating their application." The section (pp. 65-81) devoted to 'Principles and Practice of Classification,' unfolds in a familiar way what classification is and its purposes, treating the subject from the modern standpoint of evolution, giving to beginners an easily comprehensible view of the details and general principles that underlie systematic classification. The section on the 'External Parts of Birds' (pp. 81-133) is not only rewritten, but greatly amplified.

The 'Introduction to the Anatomy of Birds' (pp. 133-227,—entirely new—is too brief to set forth the matter at due length; it is addressed to beginners, and treats the subject of anatomy mainly from the standpoint of systematic ornithology. More special attention is therefore given to the skeleton, but the prominent features of the muscular, vascular, respiratory, digestive, urogenital, and nervous systems, and the special sense organs, are noticed at some length, some sixty pages being devoted to the structure of the soft parts, against about forty to the bones.

The nomenclature adopted in the 'General Synopsis' is strictly that of the second edition of the 'Couch Check List,' published in 1882. The authorities for the names adopted are, however, omitted, as are all bibliographical references. While space is thus saved for other matter, we are not sure the omission, viewed from the side of convenience, was wise. About a dozen more species and subspecies are included than are in the 'Check List'—mostly described since its publication—but their insertion is not allowed to disturb the numeration adopted in the 'Check List,' although some of the genera even are transposed. Two subspecies are here described for the first time, viz., 49a, *Parus hudsonicus evura*, from 'Alaska,' and 262a, *Junco hiemalis connectens*, from the 'Mts. of Colorado.'

A noteworthy feature of the work is the sketch of the history of North American ornithology (given in the 'Historical Preface,' pp. xi-xxvi), from its earliest beginnings down to about the year 1860. The history is happily divided into 'epochs' and 'periods,' and the work and impress of each prominent author who has written especially of North American birds is briefly adverted to and judicially weighed. The method of treatment admits of each author's share in the development of the science being thrown into sharp relief, the subject being handled with the author's usual felicity of expression.

The work as a whole represents a vast amount of labor, faithfully and carefully performed. The illustrations are for the most part excellent; the typography (the work is printed at the Cambridge 'University Press') is beyond praise; the general design and execution are tasteful to a high degree. If we were inclined to quarrel with the author it would be on minor points, and especially with his remarks about 'mummification' (p. 47), 'benzine,' 'tobacco leaves,' and baking bird skins (p. 57), all of which we have tried and seen tried to our utter disgust. These points we hope to refer to at greater length on some future occasion.—*J. A. A.*

Stearns's Notes on the Natural History of Labrador.* —These 'Notes' relate only in part to birds, which occupy pp. 116-123. A list of Mammals precedes the bird notes, which are followed by lists of fishes and plants. The list of birds numbers 111 species, and is briefly annotated. It is based on observations made "during a stay of twelve months on the coast in 1880-81, and also some additions made in the summer of 1882." A few are added on the authority of Dr. Coues's 'Notes on the Ornithology of Labrador,' published in 1861. Several of the records seem to require confirmation, particularly '*Hylocichla mustelina*' — the only *Hylocichla* given! — which was 'heard repeatedly' 'one day late in July'; and *Somateria v-nigrum*, reported as abundant in large flocks in spring." —J. A. A.

Belding on Birds found at Guaymas, Sonora, and in Lower California.—Mr. Belding gives a nominal list of 46 species observed at Guaymas,† 35 of which, it is stated, are "also represented on the opposite side of the Gulf, in Lower California, while five others are represented there by closely allied species or races."

This list is followed by a 'second catalogue'‡ of birds collected at the southern extremity of Lower California. After stating some of the more prominent physical characteristics of the peninsula south of the parallel of $24^{\circ} 30'$, Mr. Belding gives three annotated lists of the birds of as many different localities, viz., 'a. Birds of the [Victoria] Mountains,' numbering 41 species, and including *Merula confinis*, *Psaltriparus grindæ*, and *Junco bairdi* among the more noteworthy; 'b. Birds of the Lowlands (vicinity of La Paz and southward),' numbering 15 species. This is followed by 'c.' Species positively identified, but of which no specimens were preserved, occurring south of $24^{\circ} 30'$. These number 21, and consist mainly of water birds. The total number of additions to the list of Lower California birds is 52, raising the total number observed to date to 187 species.—J. A. A.

Ridgway on New Birds from Lower California.§ — These are 1, *Lophophanes inornatus cinereaceus*, which is "even more decidedly gray than the Middle Province form (*L. inornatus griseus*)"; 2. *Psaltriparus grindæ* Belding MS., and 3. *Junco bairdi* Belding MS., "most nearly related to *J. insularis* of Gaudaloupe Island."

Mr. Ridgway also reports|| the capture by Mr. Belding of an example

† Notes on the Natural History of Labrador. By W. A. Stearns. Proc. U. S. Nat. Mus., 1883, pp. 112-137. Sept. 20, 1883. *vol VI*

‡ List of Birds found at Guaymas, Sonora, in December, 1882, and April, 1883. By L. Belding. Proc. U. S. Nat. Mus., 1883, pp. 343, 344. Dec. 27, 1883. *vol VI*

§ Second Catalogue of a Collection of Birds made near the Southern Extremity of Lower California. By L. Belding. (Edited by Robert Ridgway.) Proc. U. S. Nat. Mus., 1883, pp. 344-352. Dec. 27, 1883. (For notice of Mr. Belding's former papers on the birds of Lower California, see *antea*, p. 83. *vol VI*)

|| Descriptions of some New Birds from Lower California, collected by Mr. L. Belding. By Robert Ridgway. Proc. U. S. Nat. Mus., 1883, pp. 154-156. Oct. 5, 1883. *vol VI*

|| *Anthus cervinus* (Pall.) in Lower California. By Robert Ridgway. Ibid., pp. 156, 157. Oct. 5, 1883. *vol VI*

of *Anthus cervinus* from Lower California, and gives its synonymy and characters. He also has a 'Note on *Merula confinis* (Baird),'* recording and describing two specimens taken by Mr. Belding at Laguna, Lower California, the species having hitherto rested on the original type specimen obtained by Xantus in 1860. These specimens show "not only quite constant but very pronounced" characters, so that there is now no reason "for denying it the specific rank to which it is clearly entitled."—J. A. A.

Cory's Birds of Haiti and San Domingo.†—Part I of Mr. Cory's work on the birds of Haiti and San Domingo appeared early in March, and consists of five colored plates and 40 quarto pages of text. Beginning with Turdidae, 27 species are treated, carrying the work into the Tanagridæ, and including three of Mr. Cory's recently described species, namely, *Ligea palustris*,‡ *Hirundo sclateri*, and *Myiadestes montanus*. Each of these species is figured, as are also *Mimocichla ardesciaca* and *Spindalis multicolor*. A plate is also devoted to the nest and eggs of *Mimocichla ardesciaca*. Each species is fully described, and to the descriptions are added in some cases measurements of a considerable series of specimens. The synonymy and bibliographical references are reasonably full; the manner of occurrence of each species in the region under consideration is recounted, and some account is given of the breeding habits, nests and eggs of several of the resident species. The biographical notes are, however, fewer than we had hoped to see them. The plates are excellent as regards coloration and structural details, but are somewhat stiff and lacking in artistic finish. We also notice a few typographical errors in the technical names. The work, however, promises to be a very important contribution to our knowledge of the birds of a hitherto very imperfectly known region. Mr. Cory is certainly entitled to great credit for his enterprise in gathering the materials for his work and presenting them so acceptably.—J. A. A.

Minor Ornithological Publications.—'Forest and Stream,' Vols. XX and XXI, March 15-Jan. 23, 1884, contain, besides the greater part of Mr. Everett Smith's 'Birds of Maine' (see Bull. N. O. Club, VIII, pp. 164-166), the following (Nos. 600-668):—

609. *The Carrion Crow.* (*Cathartes atratus*.) By Byrne. *Forest and Stream*, XX, No. 3, p. 45.—Account of its habits as observed at Crockett's Bluff, Ark.

610. *The Horned Lark.* By Rev. J. H. Langille. *Ibid.*, No. 4, pp. 66, 67.—Its habits and abundance in Western New York.

* Proc. U. S. Nat. Mus. 1883, p. 158.

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† The Birds of Haiti and San Domingo, by Charles B. Cory, F. L. S. Published for the Author by Estes and Lauriat, Boston, U. S. A. Part I [March] 1884, 4to, pp. 175, pl. 6.

‡ The plate of *Ligea palustris* appeared in advance of the work in the first number of 'The Auk,' to which Mr. Cory generously contributed it in illustration of his original description of the species.

611. *Ohio Bird Arrivals.* By A. Hall. *Ibid.*, No. 5, p. 85.—Gives dates of arrival of the Bluebird for five years at East Randolph, O., etc.

612. *Black Vulture in Northern Dakota.* By George A. Boardman. *Ibid.*, No. 6, p. 106.

613. *Winter Birds in Western Massachusetts.* By W. W. Colburn. *Ibid.*, No. 6, p. 106.—Capture of the Great Gray Owl (*Syrnium cinereum*) at Agawam. (This specimen is also recorded in Bull. N. O. C., VIII, p. 123, and by W. A. Stearns in *Amherst Record* (newspaper) of Aug. 1, 1883.)

614. *The Yellow-bellied Woodpecker. Picus —.* By B. Horsford. *Ibid.*, No. 7, p. 124. Kills trees by girdling them.

615. *Will Owls kill Crows?* By G. Albert Knapp. *Ibid.*, No. 7, p. 125.—Answered affirmatively by the citation of instances.

616. *Our Winter Birds.* By George Enty. *Ibid.*, No. 8, p. 146.

617. *The Great Carolina Wren in Connecticut.* By C. H. Neff. *Ibid.*, No. 8, p. 47.—Taken at Portland, Conn., March 2, 1883. (Same specimen also recorded in Bull. N. O. C., VIII, 120.)

618. *The Ptarmigan Winter.* By H. G. V[ennor]. *Ibid.*, No. 9, p. 166.—Ptarmigans in the neighborhood of Pembroke, Canada, during the winter of 1882-83.

619. *Mocking-Bird in Massachusetts.* By John C. Cahoon. *Ibid.*, No. 10, p. 185.—Taken at Taunton, March 26, 1883, by the writer.

620. *Massachusetts Winter Birds. Birds Wintering at Taunton, Mass., and Vicinity, during the Winter of 1882-83.* By John C. Cahoon. *Ibid.*, No. 12, p. 224.

621. *Some Southern California Birds.* By James E. Wadham. *Ibid.*, No. 12, p. 225.—Notes on 6 species.

622. *Turkey Buzzard in Maine.* By R. A. Gushee. *Ibid.*, No. 13, p. 245.—One taken at East Fryeburg, and another seen.

623. *Spring Birds of Nebraska.* By A. Hall. *Ibid.*, No. 14, pp. 265, 266, No. 15, p. 284.—An annotated list of 114 species, observed in the "vicinity of the Platte River, in Southeastern Nebraska, from March 1 to June 1, 1880." Includes Sprague's Lark (breeding), Townsend's Flycatcher, Baird's Sparrow, Leconte's Sparrow, Lark Bunting, Arctic Towhee, Magpie, Burrowing Owl, and other Western birds, with most of the common Eastern species.

624. *Nova Scotia Spring Notes.* By J. Matthew Jones. *Ibid.*, No. 15, p. 285.—Records the arrival of some of the earlier spring birds.

625. *Birds of Northern Ohio.* By Seym. R. Ingersoll. *Ibid.*, No. 16, pp. 304, 305.—A briefly annotated list of 208 species.

626. *Notes on the Birds of Alabama.* By A. M. R. *Ibid.*, No. 17, p. 323.—An annotated list of some 94 species. The Bobolink and *Siurus naevius* reported as *breeding*; the Ivory-billed Woodpecker as "common in the mountainous region of the north," while the Pileated is not given! There are other notes that evidently require explanation or confirmation. The notes were made "during the summers of 1880 and 1881," and relate to the "two extremes" (northern and southern) of the State. It is, there-

fore, greatly to be regretted that the notes relating to the two localities were not kept separate.

627. *Birds of Northern Ohio. Additions.* By H. E. Chubb. *Ibid.*, No. 18, p. 343.—Forty-four species are added to Mr. Ingersoll's list (see above, No. 625), raising the total number to 252; and there are emendatory notes on 8 others.

628. *A Naturalist in Washington Territory.* By Kallakalla. *Ibid.*, No. 19, p. 363.—An interesting paper, largely ornithological. We regret that the author has impaired its availability by concealing his identity under a pseudonym.

629. *When the Birds Return.* *Ibid.*, No. 19, p. 364.—Two articles: the first, by 'Old Turkey,' gives the arrival of about 70 species at Long Hill, N. J., March 3 to May 27, 1883; the other, by S. R. I[ngersoll], gives the arrival of upwards of 80 species at Cleveland, O.

630. *Winter and Spring Notes, 1882-83.* By Charles H. Neff. *Ibid.*, No. 19, p. 364.—Observations made at Portland, Conn., Dec. 9 to April 1.

631. *The English Sparrow.* By E. C. Bell. *Ibid.*, No. 19, p. 364.—Vigorous comment on its bad qualities.

632. *Anomalies in Bird Life.* By Lew Vanderpool. *Ibid.*, No. 20, p. 383.—An albino Robin; a Baltimore Oriole imitating the Catbird's song.

633. "Do Rails Carry Their Eggs?" By J. D. L. *Ibid.*, No. 20, p. 384.—A supposed instance cited.

634. *How to Kill the English Sparrow.* By Wilson Flagg. *Ibid.*, No. 26, p. 503.—By use of a steam fire engine!

635. *Breeding Quail in Confinement.* By John J. Willis. *Ibid.*, Vol. XXI, No. 5, p. 84.—Successful attempts reported.

636. *Hybridity in Birds.* Editorial. *Ibid.*, p. 84.—Comment on the case of hybridity between the Snowbird and White-throated Sparrow reported by Mr. Townsend (Bull. N. O. C., VIII., p. 78; Proc. Acad. Nat. Sci., 1883, p.—), and a case of hybridity reported between the Mallard and Pintail Duck.

637. *Breeding Quail in Confinement.* By Henry Benbrook. *Ibid.*, No. 7, p. 123.—Other successful attempts reported.

638. *The Birds of Maine.* By Everett Smith. *Ibid.*, No. 8, pp. 143, 144.—Reply to 'W. B.'s' review (Bull. N. O. C. VIII, 164-166) of his series of papers on this subject.

639. *Nova Scotia Summer Notes.* By J. Matthew Jones. *Ibid.*, No. 9, p. 163.—Contains a few bird notes.

640. *The White-winged Gull. Larus leucopterus.* By Everett Smith. *Ibid.*, No. 9, pp. 163, 164.—Referring specimens previously identified by Mr. W. Brewster (Bull. N. O. C., VIII, 125) as *L. glaucescens* to *L. leucopterus*, with further comment on Mr. Brewster's review of the writer's 'Birds of Maine.'

641. *American Ornithologists' Union.* [By C. Hart Merriam.] *Ibid.*, No. 10, p. 183.—Report of the proceedings of the meeting for organization held in New York City, Sept. 26-28, 1883.

642. *Quail bred in Confinement*. By G. N. (Savannah, Ga.). *Ibid.*, No. 11, p. 183.—Another successful attempt reported.

643. "The Birds of Maine." By William Brewster. *Ibid.*, No. 11, p. 202.—A rejoinder to Mr. Everett Smith. (See above, Nos. 638, 640.)

644. *The Birds of Prospect Park [Brooklyn, N. Y.]*. By W. B. Wyman. *Ibid.*, No. 12, pp. 226, 227.—A nominal list of 81 species, including a number of improbable occurrence.

645. *Domesticating Game Birds*. Editorial. *Ibid.*, No. 14, p. 264.—Notes on the Ruffed Grouse, the Pintail Grouse, and the common Quail.

646. *The Birds of Prospect Park*. By Louis A. Zerega. *Ibid.*, No. 16, p. 304.—A criticism on a previous article of the same title (see above, No. 644), exposing its untrustworthiness. An editorial apology for the admission of the former article into the pages of 'Forest and Stream' follows.

647. *Importation of Game Birds [into Massachusetts]*. By J. N. S. *Ibid.*, No. 16, p. 305.—English Pheasants.

648. *How to Prepare Bird Skins*. Editorial. *Ibid.*, No. 16, p. 304. (Reprinted from 'F. and S.' of Dec. 1, 1881.)

649. *Rearing Pheasants*. By Frank J. Thompson. *Ibid.*, No. 17, pp. 324, 325.—Directions for the care and propagation of Pheasants.

650. *Game Birds [Rails and Quails] at Sea*. By Fayette S. Giles. *Ibid.*, No. 19, p. 363.

651. *The Bohemian Waxwing*. By F. E. L. Beal. *Ibid.*, No. 19, p. 363.—Its appearance in considerable numbers at Ames, Iowa, in Nov. 1883.

652. *Swallow-tailed Kite in Maine*. Editorial. *Ibid.*, No. 19, p. 363.—An erroneous record (see below, No. 665).

653. *The Purple Finch and his Cousins*. I. *Carpodacus purpureus*. By Dr. Elliott Coues. *Ibid.*, No. 20, pp. 385, 386.—Biography of the species.

654. *The Whooping Crane*. By Picket. *Ibid.*, No. 21, p. 407.—An interesting account of its habits.

655. *The Purple Finch and his Cousins*. II. *Carpodacus cassini*. By Dr. Elliott Coues. *Ibid.*, No. 22, p. 435.—Biography of the species.

656. *Interesting Pets*. By Violet S. Williams. *Ibid.*, No. 22, pp. 435, 436.—Relates mainly to a "great brown and white owl."

657. *Nesting of the Hooded Merganser [in the Adirondacks]*. By Fred. Mather. *Ibid.*, No. 22, p. 436.

658. *The Purple Finch and his Cousins*. III. *Carpodacus frontalis*. By Dr. Elliott Coues. *Ibid.*, No. 23, p. 451.—Biography of the species.

659. *The White-winged Gull*. By Everett Smith. *Ibid.*, No. 24, p. 474.—A reply to Mr. Brewster (see above, No. 643).

660. *A Tame Crow*. By J. F. Sprague. *Ibid.*, No. 24, p. 474.

661. *A Least Bittern [at Onondaga Lake, N. Y.]*. By Walt. Mickle. *Ibid.*, pp. 474, 515.

662. *Picoides arcticus in Massachusetts*. By W. A. Stearns. *Ibid.*, No. 24, p. 474.—Near Dorchester, August 11, 1883.

663. *Note on the Eider Duck.* By Charles Linden. *Ibid.*, No. 24, p. 474.

664. *Cardinal Grosbeaks in Winter.* By H. C. Kirkpatrick. *Ibid.*, No. 24, p. 474.—At Meadville, Pa.

665. "Swallow-Tailed Kite in Maine." Editorial. *Ibid.*, No. 24, p. 464—Sent from the West—not killed in Maine. (See above, No. 652.)

666. *Range of Carpodacus frontalis.* By J. *Ibid.*, No. 25, p. 493.—A pair killed at Fort Lyon, Col., June 3, 1883, the female containing an egg nearly ready to lay.

667. *Bird Migration.* By C. Hart Merriam. *Ibid.*, No. 26, pp. 514, 514.—Circular of the A. O. U. Committee on Migration of Birds.

668. *Late Snipe.* By S. R. Ingersoll. *Ibid.*, No. 26, p. 515.—Taken at Cleveland, O., Dec. 23, 1883.

Publications Received.—*Coues, E., and D. Webster Prentiss. Avifauna Columbiana*: being a list of the Birds ascertained to inhabit the District of Columbia, etc. (Bull. U. S. Nat. Mus., No. 26, 1883.)

Dalgleish, John J. Notes on a Second Collection of Birds and Eggs from Central Uruguay. (Proc. Roy. Phys. Soc. Edinburgh, VIII, pp. 77-88.)

Lescuyer, F. (1) *Langage et chant des Oiseaux.* 8vo., pp. 134. Paris, 1878. (2) *Étude sur les Oiseaux. Architecture des Nids.* Deuxième édition, revue et augmentée. 8vo., pp. 222. Paris, 1878. (3) *Utilité de l'Oiseau. Étude élémentaire d'ornithologie.* 8vo., pp. 80. Paris, 1883.

Shalow, Herman. (1) *Ueber die Fortschritte auf dem Gebiete der Ornithologie in den letzten fünf Jahren in faunistischer Beziehung.* (Journ. für Orn., Juli, 1883. (2) *Die ornitholog. Sammlungen Dr. R. Böhm's aus Ost-Afrika. I, Ueber die Sammlungen aus den Gebieten von Zanzibar, Ugogo und Kakoma.* (Journ. für Orn., Oct. 1883.)

Ridgway, Robert. (1) *Descriptions of some New North American Birds.* (2) *Description of a New American Kingfisher.* (3) *Notes on Psaltriparus griseus Belding.* (4) *Note on the Generic Name Calodromas.* (5) *A Review of the American Crossbills (Loxia) of the L. curvirostra type.* (6) *Remarks on the type specimens of Muscicapa fulvifrons, Giraud, and Mitrephorus pallescens, Coues.* (7) *Note regarding the earliest name for Carpodacus haemorrhous (Wagler).* (Proc. Biolog. Soc. Washington, II, April, 1884.)

Stejneger, Leonhard. (1) *Diagnoses of New Species of Birds from Kamtschatka and the Commander Islands.* (Proc. Biol. Soc. Washington, II, April, 1884. (2) *Classification of Birds.* (Science Record, May, 1884.) (3) *Ueber einige Formen der Untergattung Anorthura.* (Zeitsch. für die gesammte Ornithologie, I, Heft 1, 1884.)

Meyer, A. B. Ueber neue und ungenügend bekannte Vögel, Nester und Eier aus dem Ostindischen Archipel im Königl. Zoologischen Museum zu Dresden. (Sitzungsb. u. Abhandl. der Isis, 1884, Abh. 1.)

Reichenow, Ant. (1) *Bericht über die Leistungen in der Naturgeschichte der Vögel während des Jahres 1882.* (Journ. für Orn., Oct. 1884. (2)

Die Vögel der Zoologischen Gärten. Zweiter Theil. 8vo., pp. 19 + 456, Leipzig, 1884.

+ Finsch, O. Ueber Vögel der Südsee. 8vo., pp. 56. Wien, 1884.

Scudder, S. H. Nomenclator Zoologicus. (Bull. U. S. Nat. Mus., No. 19.)

Shufeldt, R. W. Osteology of *Ceryle alcyon*. (Journ Anat. and Phys., XVIII, pp. 379-394, pl. xiv.)

Zeitschrift für die gesammte Ornithologie, I Jahr., Heft 1, 1884.

+ Ornithologist and Oölogist, April, May, June, 1884.

+ Bulletin Buffalo Naturalists' Field Club, I, Nos. 5, 6.

+ Bulletin of Massachusetts Natural History, I, Nos. 1, 2, April, May, 1884.

American Naturalist, May, June, July, 1884.

Zoologist, April, May, June, 1884.

Random Notes on Natural History, I, Nos. 4, 5, 6, 1884.

GENERAL NOTES.

The Generic Name *Ligea*.—As I find the generic name *Ligea*, proposed by me for a Sylvicoline bird from Haiti in the January number of 'The Auk' (p. 1), is preoccupied in zoölogy, I propose to substitute therefor the name *Microligea* (μικρος, Λιγεα, in the sense of little wood-nymph). The single known species will therefore stand as *Microligea palustris*.—CHARLES B. CORY, *Boston, Mass.*

The Occurrence of the Golden Swamp Warbler (*Protonotaria citrea*) in Rhode Island.—The specimen, a male in bright plumage, was shot April 20, 1884, upon the borders of a dense though not extensive swamp in the southeastern corner of the State. The mein of the bird was suggestive of fatigue, and it showed no fear of its captors, who were forced to retreat from it before firing, to avoid excessive mutilation. No other birds were seen in the vicinity; in fact, Yellow-rumped Warblers and Fox Sparrows were the only other birds present in force in this locality at that season. Upon examination the wing (primaries) and tail-feathers showed considerable wear, though not conspicuously more than several specimens shot upon the western range of this bird, with which I have compared it. The only previous record of this beautiful warbler in New England seems to have been that of a fall (October) bird in Maine. This occurrence, so near the annual migration, suggests the query as to whether the especially favorable locality in which it was found may not be regularly visited.—R. G. HAZARD, 2D., *Peace Dale, R. I.*

Capture of the Summer Red Bird on Long Island.—On May 16, 1883, my cousin, a boy of about fourteen, brought me a couple of birds

which he had shot in this place. I found them to be very much mutilated and hardly fit to be mounted, but I took the skin of one, as it was new to me, and laid it away. On examining Audubon's 'North American Birds' lately, I saw that the skin I had was that of the male Summer Red Bird. I believe that the other bird, which I threw away at the time, it being too much mutilated to do anything with, was a female of the same species. It was only a few days ago that I learned that this bird is quite rare in this section, and so communicate the particulars. The skin was also identified by Dr. A. K. Fisher. The boy who shot the two birds above mentioned told me at the time that he had seen others of the same kind, but could not shoot them.—W. F. HENDRICKSON, *Long Island, N. Y.*

Vireo philadelphicus in Northern New York.—On the 21st of May last Mr. A. R. Crosier, keeper of the Fair Haven Light, on Lake Ontario (in Cayuga County, New York), sent me for identification a specimen of the Philadelphia Vireo which had killed itself by flying against the glass of the lantern at that station.—C. HART MERRIAM, *Locust Grove, N. Y.*

Vireo philadelphicus in the Adirondack Region.—On the afternoon of May 22, 1884, while collecting data for the A. O. U. Committee on Migration, I secured a specimen of this rare bird. Dr. A. K. Fisher, of Sing Sing, N. Y., who kindly identified it for me, says it is the first recorded from the Adirondack Region. At the time of capture the bird was sitting on a small bush at the edge of a dense alder swamp; it was entirely alone, and is the only one I have seen.—M. H. TURNER, M. D., *Hammondville, Essex Co., N. Y.*

The Loggerhead Shrike again in Massachusetts.—On January 29, 1884, Mr. Eastman of this place observed two Shrikes by the roadside very near the centre of this village, apparently contending for the possession of a small bird. One left as he approached, the other he secured, and it proved to be a typical *Lanius ludovicianus*, male, in clear, bright plumage. The prey was an English Sparrow. (Too bad to kill a bird engaged in *that* business!) Perhaps these birds were members of one of the colonies so lately discovered breeding to the north of us, as set forth in Bull. Nutt. Club, 1879, by Brewer (p. 119), and Purdie (p. 186), and exhaustively by the former in Proc. Boston N. H. Soc., 1879, p. 226.—F. C. BROWNE, *Framingham, Mass.*

Notes on 'Lanius cristatus' and 'L. borealis,' of Nelson's 'Birds of Bering Sea and the Arctic Ocean.'—I have read with the greatest interest E. W. Nelson's account of the birds collected and seen during the cruise of the steamer 'Corwin' in Alaska and the N. W. Arctic Ocean (Washington, 1883). Mr. Nelson gives (p. 65) a detailed description of a rufous Asiatic Shrike under the name of *Lanius cristatus* juv., which was found in the vicinity of Wrangel Island. It was a dried specimen, a very good figure of which, by Mr. Ridgway, is given, from which I see the bird

is not *Lanius cristatus* Lin. (*Otomela cristata* Bp.), but a nearly allied species, viz., *Phoneus brachyurus* of Pallas, the oldest name of *Lanius bucephalus* Temm. & Schleg. (Fauna Japonica), as I have pointed out in Cabanis's 'Journal für Ornithologie' (1876, p. 215). The occurrence of this Japanese Shrike in Wrangel Island is of great interest. In a little account of this bird (Journ. f. Orn., 1881, Meeting of the Germ. Ornith. Soc. of Febr.) I have referred to the specific differences between *Otomela cristata* and *Phoneus brachyurus*. The Gray Shrike noted by Nelson and named *Lanius borealis* Vieill. (p. 67), I suppose to be not this bird, but probably *Lanius major* of Pallas. The great gray *Lanius*, which has been collected by Dr. A. Krause, near the mouth of the Chilcat, Alaska, now in the Berlin Museum, which has been described, too, by Dr. Hartlaub as *L. borealis* (J. f. O., 1883, p. 270) is certainly *L. major* Pall. Professor Cabanis has confirmed my opinion (cf. J. f. O., Meeting Germ. Ornith. Soc., March, 1881).—HERMAN SHALOW, M. G. O. S., Berlin.

Probable Breeding of the Red Crossbill (*Loxia curvirostra americana*) in Central Maryland.—May 23, 1884, Mr. George Marshall shot two Crossbills, a male and female, from a flock of five, near Laurel, Maryland. The female showed unmistakable evidence of having recently incubated. Two days afterward another male was shot in the same locality. The three specimens are now in the National Museum collection, two of them having been mounted for the exhibition series. Their measurements are as follows:

Mus. Register and No.	Sex Age.	Locality.	Date.	Wing.	Tail.	Culm.	of Gony.	Tars.	Depth Bill.	
97967	♂ ad.	Laurel, Md.	May 25, '84.	3.60	2.30	.68	.40	.50	.67	.60
97972	♂ ad.	" "	" 23, "	3.60	2.25	.65	.40	.45	.65	.66
97968	♀ ad.	" "	" 23, "	3.40	2.00	.65	.40	.41	.65	.50

From their dimensions they would therefore be referable to *americana* proper, although representing about the maximum of size in this form. (See Proceedings of the Biological Society of Washington, Vol. II, pp. 101-107.)

This species probably sometimes breeds in various portions of the State of Maryland. In fact, I have been assured by Mr. A. Wölle, an experienced and reliable collector and bird-fancier of Baltimore, that he had, on several occasions, found the nest of this species in the immediate vicinity of that city.—R. RIDGWAY, Washington, D. C.

The Probable Breeding-place of *Passerculus princeps*.—The National Museum possesses a considerable series of eggs labeled "*Passerculus savana*, Sable Island, Nova Scotia, July, 1862; J. P. Dodd," which are uniformly so much larger than those of the Savannah Sparrow as to strongly suggest the probability that they may be in reality those of the

Ipswich Sparrow. At any rate, the matter is worth investigating, and it is hoped that some reader of 'The Auk' may be able to decide the question.—**ROBERT RIDGWAY, Washington, D. C.**

Calamospiza bicolor in Southern California.—About the middle of April of the last spring, I saw an individual (male) of this species within a quarter of a mile of San Diego Bay, singing by the roadside. Early in May they were first observed in large flocks on the mesa within a few miles of the Mexican line, both males and females. At present writing, May 25, they are everywhere abundant on the mesas, and apparently breeding. Mr. L. Belding tells me he has met with the bird in Lower California during his explorations there. I have never met with it before in California, nor have I heard of its occurrence here in past years. Do I record a new area of its distribution?—**GODFREY HOLTERHOFF, National City, Cal.**

Egg of the Cowbird in Nest of the Carolina Dove.—Mr. E. H. King of West Liberty, Iowa, writes me to this effect, adding that the Dove is the largest bird he has known to be chosen as the Cowbird's foster-parent.—**ELLIOTT COUES, Washington, D. C.**

Xanthocephalus icterocephalus in Chester County, South Carolina.—Sometime since a friend informed me that there was to be seen in one of the stores of this place a curious and unknown bird, which was exciting considerable comment. In this *rara avis* I expected to find, as has frequently been the case heretofore, the Rose-breasted Song Grosbeak, or some other of the smaller and more brilliantly colored birds, which usually escape general observation. In consequence, I was not a little surprised to find a large Blackbird, with a yellow head, neck, and fore-breast, and a conspicuous white wing-patch, which I recognized at once as the Yellow-headed Swamp Blackbird of the western prairies. The circumstances of the capture are as follows: On the morning of April 17, 1884, a gentleman of the town noticed it in his stable-yard, just back of the principal business street. Here it remained all day, being very tame, and letting him walk up within fifteen or twenty steps, then "running off like a chicken." At night it disappeared, but the next morning, the 18th, it returned and was caught about ten or eleven o'clock in a trap. The presence of this wanderer, in a locality so remote from its usual habitat, is not improbably due to the heavy southwest gales we had been having for some time back.—**LEVERETT M. LOOMIS, Chester, S. C.**

The Turkey Buzzard in Western New York.—A Turkey Buzzard (*Cathartes aura*) was shot at Kendall Mills, ten miles northwest of this town, May 23, 1884, by a farmer named George Hoffman. He saw the bird sitting on the top of a dead tree near where he was at work, and by a well-directed shot with his rifle brought it to the ground. The bird was purchased by Mr. D. T. Bruce, a taxidermist of Brockport, and is now in his collection. The specimen was recorded by Mr. Bruce in the 'Brockport Republic' of May 29, 1884; but the occurrence seems worthy of a more accessible and permanent record.—**J. T. FRASER, Brockport, N. Y.**

Occurrence of the Least Tern at San Diego, Cal.—Quite a number of individuals of this species were shot in the summer of 1883, on the peninsula enclosing San Diego Bay. My own record of the birds is for the months of June and July, but others were reported in August and September. None have been seen this year up to date (May 25), and I am inclined to think their occurrence very unusual. I have never heard of them before on this southern coast.—**GODFREY HOLTERHOFF, National City, Cal.**

✗ **Wilson's Petrel in Western New York.**—In my report to Dr. A. K. Fisher of the birds that occur in this vicinity, I mentioned among the Accidental Visitants a 'Stormy Petrel,' and gave him the particulars of its capture. He asked me to report it to 'The Auk'. The specimen is in my collection, and was taken by Mr. J. A. Newton of this city in Oct., 1875, while shooting Golden Plover in a field just outside the city limits. On examining it I find it is a Wilson's Petrel (*Oceanites oceanica*) instead of Stormy Petrel as reported. It was presented to the Jewett Scientific Society and lately came into my possession.—**J. L. DAVISON, Lockport, N. Y.**

New Brunswick Winter Notes.—Birds were particularly abundant during the winter that has just passed, especially through the earlier months, but they were not of the species generally common here at that season. The scarcity of Owls and Hawks was a marked feature, as was also the comparatively rare occurrence of the Crossbills, the Chickadees, the Snow Bunting, the Tree Sparrow, and the Redpoll. Pine Grosbeaks were numerous, and I thought some of the adult males were more brilliantly colored than any I had met before. They are always rather fearless of man, but the flock that wintered near St. John last winter seemed conspicuously so. I came upon a number feeding on the ground, and as I walked through their midst they barely moved out of my way, going off two or three yards, and when I stood, coming back to within arm's reach. One audacious fellow actually hopped between my legs, coolly pecking as he went.

The Red-bellied Nuthatch and the Golden-crowned Kinglet were reported very abundant in some localities. One trustworthy correspondent writes: "Observing a throng of birds in a grove, I went to the edge, and gave a shrill whistle, when they flocked around me. I counted over forty, mostly Nuthatches."

But the winter will be chiefly remembered by our naturalists as the season when the Bohemian Waxwing was first seen by the rising generation of observers; when several individuals of the Brown Creeper, the Thistle Bird, the Purple Finch, and the Cedar Bird were taken near St. John in January and February, and when large numbers of Crows and Robins spent the entire season in the Province.

It was not a 'mild' winter either, for though during a part of February the temperature was higher than that month generally brings us, the weather of the most of January was far from 'mild'—the thermometer

registering fifteen to twenty-four degrees below zero with a frequency and persistency that is quite unusual in this vicinity.

On stormy days the birds were not seen about the city, but they seemed quite indifferent to the cold, and when the sun was shining, even though the temperature was extremely low, they literally swarmed upon the branches, and on the ground beneath the mountain ash trees, in the squares and gardens; nor did they finally leave until every berry had been devoured.

I had almost neglected to note another occurrence for which the past winter will remain remarkable—the advent of *Passer domesticus*. Somewhere about New-Year's day a small detachment of English Sparrows—the first that are known to have visited this Province—arrived at St. John in a car of grain shipped from some western city; and, somewhat in the style of other 'cheeky' visitors, these pests act as if they intended to 'stay all summer.'—MONTAGUE CHAMBERLAIN, *St. John, N. B.*

Second Addendum to List of Birds Ascertained to Occur within ten miles from Point de Monts, Province of Quebec, Canada; based chiefly upon the Notes of NAPOLEON A. COMEAU.—Mr. Comeau has sent me skins of the following-named species, taken by him at Godbout, and not previously recorded from that locality:

157. *Saxicola cenanthe*. Shot May 18, 1884.
158. *Passerella iliaca*. Shot Oct. 11, 1883.
159. *Spizella monticola*. Shot in August, 1883.
160. *Passer domesticus*. Shot May 27, 1884.
161. *Empidonax flaviventris*. Shot in August or September, 1883.
162. *Tringa canutus*. Shot in August or September, 1883.
163. *Accipiter fuscus*. Shot May 2, 1884. Tolerably common; breeds.
164. *Melospiza lincolni*. Shot June 2, 1884.
165. *Melospiza palustris*. Shot June 2, 1884.
166. *Falco peregrinus nævius*. Shot June 2, 1884.
167. *Passerina cyanea*. Shot June 8, 1884.
168. *Siurus auricapillus*. Shot June 9, 1884.
169. *Sphyrapicus varius*. Shot June 13, 1884.
170. *Picoides tridactylus americanus*. Tolerably common.—C. HART MERRIAM, M.D., *Locust Grove, New York*.

CORRESPONDENCE.

[Correspondents are requested to write briefly and to the point. No attention will be paid to anonymous communications.]

An Ornithological Swindler.

TO THE EDITORS OF THE AUK:—

Sirs: A case of ornithological swindling which has lately come to my notice is of such an aggravated character that I feel it my duty to make the facts known. They are as follows:—

A certain museum in this State, wishing to increase its local collection of birds, engaged the services of a professional taxidermist and collector, whose reputation for honesty was supposed to be above suspicion. He was furnished with lists of desiderata, and instructed to supply the species as soon as they could be obtained; it being distinctly understood, however, that only birds actually taken within the limits of a certain county would be accepted by the institution. For a time everything worked to the satisfaction of all concerned. Birds fairly poured into the museum, the cases were filling fast, and the collector's zeal and energy were not less evident than gratifying. His success in obtaining rarities was remarkable, for in less than two years he supplied specimens of nearly every species which has ever occurred in Massachusetts. This of itself should have early caused suspicion; but, fortunately for him, none of the officers of the institution were ornithologists; so such birds as Rough-winged Swallows, Yellow-headed Blackbirds, Wilson's Plover, etc., continued to be received with perfect confidence in the carefully recorded data which accompanied them.

At length, however, a gentleman familiar with Massachusetts birds visited the museum, and upon examining its local collection became convinced — from evidences which need not be mentioned here — that all was not as it should be. The curator, at first unwilling to believe ill of his trusted ally, was finally induced to put a watch on his movements, and as a result discovered that he was ordering bird-skins in numbers from various dealers; and, furthermore, that there was little doubt that many of these skins were afterwards mounted for the museum and, supplied with imaginary data to suit the requirements of each particular case, were sent in as veritable — County specimens. Through the kind coöperation of one of these dealers (who, it should be said, had been hitherto ignorant of the use to which his birds had been put), positive proof of this was speedily obtained, marked skins (whose labels were carefully recorded) being furnished by him to the collector, who at once fell into the trap, and after mounting and relabelling them sent them to the institution.

When directly charged with this and similar practices, the hardened wretch denied his guilt with the utmost effrontery, nor was it until he had been confronted by the proofs that he finally broke down. It is satisfactory to add that he was forced to disgorge his ill-gotten gains, and that the officers of the museum recovered nearly, if not quite, the whole of the money which had been paid him.

In the present connection it is not necessary — while it would be, for certain reasons, ungracious — to mention the name of the institution above referred to, especially since it has purged its cases of all specimens to which the slightest suspicion can attach; but no considerations, whether of mercy or personal delicacy, can warrant the withholding of the collector's name. His offence is not simply that of wilfully defrauding a trusted employer; it reaches — or at least might have reached — very much further. For had his falsely labeled specimens passed unchallenged, dozens of erroneous records would have been inevitably published

and perpetuated.* In short, the interests of ornithology demand that a case so flagrant be made an example of warning to all who may be tempted to commit similar crimes (the word is a strong one, but let it stand). Accordingly I hold up for the contempt of all honest men the name of Emery C. Greenwood of Ipswich, Massachusetts. It is to be hoped that there are no more such deceivers in our midst. If any are known or suspected let them be promptly dealt with.

Very truly yours,

WILLIAM BREWSTER.

Cambridge, Mass., June, 1884.

Can we not have a Simpler System of Nomenclature?

TO THE EDITORS OF THE AUK:—

Sirs: The present seems a fitting time to test the views of ornithologists as regards a new nomenclature. So much has to be crowded into one's life, that in general the simpler the basis of our knowledge is, the more will interest be awakened; and so it is with ornithology also. If we would have a nomenclature that will endure, we must make it as simple as possible, so that it serves our purpose. And ornithology can be made easy, without at all retarding its advancement, and at the same time, not be continually in an unsettled state as regards nomenclature. For ordinary purposes, of what use is the generic name? Is there a case where the family name will not serve as well? If there are two specific names alike in one family, then one should be changed immediately. The family name will answer every purpose and much better than the generic; and if the present generation does not adopt it, some future one will, for complication will not stand the wear of time where simplicity will do as well.

If the family name is used, the ordinarily well-read people will master the rudiments; while now none but specialists know anything of ornithology by its scientific appellations. This change will in no way be detrimental to the student either, for he will know just as well what *Turdus mustelinus*, *Turdus migratorius*, *Turdus polyglottus*, and *Turdus rufus* are as though *Hylocichla*, *Merula*, *Mimus*, and *Harporhynchus* were used, and the general reader will know he is reading about a Thrush.

Many of the family names carry with them their own meaning, while very few of the generic do. The family names of the bird-world would not be very difficult to master; but who can say the same of the generic? Those of this country are known perfectly by very few.

But doubtless the question will be asked, What shall become of the generic names? My reply is, leave them in the scientific books, where

*As it was the escape was a narrow one, for at various times during the past two years he has been kind (!) enough to write to Mr. Allen and myself concerning some of his more interesting captures, in more than one instance actually giving a detailed account of the shooting of a specimen in Massachusetts which we now know came to him in the skin from Norway. Fortunately these notes were not fully trusted, and only one of them—that of the Wood Ibis, announced by Mr. Allen in the 'Bulletin of the Nuttall Ornithological Club' (Vol. VIII, p. 185)—was actually published.

they belong, and from which they should never have been taken for common use. The following schedule will better show the working of the change I propose, taking Ridgway's 'Nomenclature of North American Birds' in illustration.

Family TURDIDÆ.

Genus *Hylocichla*.

1. *Turdus mustelinus*.
2. *Turdus fuscescens*, etc.

Genus *Turdus*.

6. *Turdus iliacus*.

Genus *Merula*.

7. *Turdus migratorius*.

Genus *Hesperocichla*.

9. *Turdus naevius*.

Eight genera in Turdidae where one would answer equally well for all articles upon birds, and which would be better understood by all who read them. *Picus* will answer as well for every Woodpecker as the eight names used in its stead, and *Anas* for every Duck, as well as the twenty-two now used, etc.

It will be seen that all the changes of genera that may be instituted would not in the least affect the general student or the public.

Very respectfully,

Providence, R. I., May 19, 1884.

FRED. T. JENCKS.

The above was sent to the editor of 'The Auk,' and his reply to it [given below] was so conclusive that at my request he publishes both for the benefit of the many ornithologists who, like myself, may not understand the details imposed upon ornithology in respect to matters of nomenclature.—F. T. J.

Cambridge, Mass.,
May 20, 1884.

MR. F. T. JENCKS,

Providence, R. I. :—

Dear Sir: Yours of 19th, with enclosure for the July 'Auk,' is just received. The subject of which you write is certainly an important one, and the difficulties to which you allude I to some degree appreciate. Yet I must say I see no remedy. The scheme you present is certainly impracticable, as I could easily show you could I meet you and talk the matter over with you. It is rather too large a subject to handle readily in a letter. Yet I will try to call your attention to a few points, and will take the family you instance — the Turdidae — in illustration.

The latest monographer of this group refers to it nearly 250 species, for which he recognizes 18 genera. Have you any idea how difficult it would be to find 250 different and distinct specific names for these birds, and how many new names would have to be imposed to take the place of names used more than once within even the typical Thrushes (subfamily Turdinæ)

alone? A reference to the synonymy of the Thrushes, as here presented, shows that in some instances the same specific name is used by different writers, in the current literature of the subject, for as many as *nine* different species; while many names are used *five* times, a much larger number *three* and *four* times, and a great many more are used *twice*. The instances are not few where the same specific name is used for two or three different species *by the same writer*. To displace these names would be simply impossible, from the fact that the *rule of priority* is universally accepted by all biologists — botanists as well as zoölogists — as the fundamental principle of nomenclature, strict adherence to which is the only safeguard of stability in names. To ignore it gives every one the right, or at least opens the way to any one, to give a new name in place of any which for any reason he does not like. So long as tastes differ — as they always will in matters of nomenclature, as in other things — you may readily see what confusion would speedily result. But *nothing* will ever induce naturalists to revoke this rule, which was formally adopted 50 years ago as a relief from the chaos of names resulting from any one who chose displacing names he did not like. A fatal objection to your scheme is this substitution of new names for old ones on a large scale, in order that the same specific name may not be used twice in the same *family*. Naturalists already find difficulty enough in selecting names that have not been used before in the same *genus*!

So much for this side of the subject. Now as to a point in classification. The Turdidæ, as now construed by leading authorities, include not only the birds known to us in this country as Thrushes, but also the very large Old World group of Warblers (genera *Sylvia*, *Phylloscopus*, *Cettia*, *Locustella*, etc.), the Redstarts (*Ruticillæ*), Stonechats (*Saxicolæ*), the Nightingales, Robin-Redbreasts, etc., and our own Bluebirds, and the Solitaires. To use *Turdus* as the generic term for all these forms would so expand its significance that it would convey no very clear idea of the kind of bird meant. On the other hand, many birds popularly called Thrushes — as the great group of 'Babbling' Thrushes of the Old World, and the 'Mocking' Thrushes of the New World, including our Brown Thrush, Mockingbird, Catbird, and their allies — are ruled out of the family. The latest and highest authorities on the Passeres *emphatically* exclude our Mockingbirds and Thrashers from the family Turdidæ, on what are considered good structural characters. So you will see that part of the examples you cite as members of *Turdus* are not admissible into even the Thrush *family*. I fear, to meet your views, we should have to have not only a new *system of nomenclature*, but a *new classification* as regards the *families of birds*.

But these are only a few specimen examples of the great number of objections your scheme would encounter. The impracticabilities are numerous and appear on every hand.

I do not doubt that you represent a widespread and deep feeling, but at the same time it is perfectly evident that it results from limited knowledge of the subject. You have in mind mainly the birds of a limited area — not those of the world at large. But this dissatisfaction you voice is not

altogether without cause, and is a natural reaction against a refinement of classification, as regards genera, which in this country has been carried quite too far, and against which there is also a reaction among experts themselves. What you hope to see, I may venture to say, will be to a large degree realized in the next Check List of North American birds—the A. O. U. List. It will necessarily be some time—perhaps a year or more—before it will be in the hands of the public; but it is an open secret that it will present, for one thing, a very great reduction in the number of generic names—a return in this respect to almost the Audubonian basis.

But there is perhaps another thing which you overlook, and that is that while many of the genera in our North American list have but one or two species referred to them, they may be genera which have elsewhere many species, and that in a list of the birds of the world, instead of having one or two species, as is the case with *Merula*, *Saxicola*, *Mimus*, *Thryothorus*, *Myiadestes*, *Euphonia*, *Spermophila*, etc., they really include a dozen, or twenty, or even more.

Now, in regard to your paper sent for publication in 'The Auk.' From the standpoint of the scientist the scheme unfolded is in many ways so antagonistic to settled canons of nomenclature as to be thoroughly impracticable. This is a frank statement of the case, dictated by the most friendly motives. While I do not decline your article, as a friend I would advise its withdrawal, for reasons above stated. If you prefer to see it published, its proper place would be in the department of 'Correspondence,' and its character would call for editorial comment. About what that would be you can infer from the tenor of this letter.... I now leave the matter in this way, and hope to hear from you soon in reply.

Very truly yours,

J. A. ALLEN.

A Lay View of 'Ornithophilologicalities.'

TO THE EDITORS OF THE AUK:—

Sirs: While reading the various articles which relate to the nomenclature of birds, by Professor Merriam and Drs. Stejneger and Coues, which have appeared in 'The Auk' and its predecessor, the lay mind is filled with dismay. The predominant feeling is that if these literary amenities are essential to the science, we must forego the science. One cannot help thinking that a fitting caption for such papers as the dreary 'Ornithophilologicalities' would have been that which Dante found above the entrance to a less desolate region: "All hope abandon ye who enter here." Where opinions are so radically opposed what gains can be expected? Has all the controversy hitherto been able to accomplish anything? Do we not find even in so small a matter as the broad distinction between birds hatched naked and those hatched with a covering that Dr. Coues says 'psilopædic' and 'ptilopædic' in place of the 'gymnopædic' and 'dasypædic' of other authors? And is it not certain that each author is prepared to maintain that his particular word is the more pre-

ferable, even at the cost of obscuring the very pith and marrow of our beloved science?

I am prepared to applaud the energy, the untiring devotion, and the incomprehensible learning of the philologically inclined gentlemen, but I am prompted to ask whether we may not reasonably expect a deliverance from such discussions. I am quite aware that I shall be told that no compulsion is exercised in the matter, and that I need not afflict myself from a sense of duty. But this does not cover the case; I am, it is true, merely one of the most inconspicuous readers of 'The Auk,' but I know of some, at least, who believe as I do, that 'The Auk' would gain strength by excluding such arid matter as it has lately printed for the learned Doctors previously mentioned. If it is said that these articles properly belong in the pages of the 'American Ibis,' and it be so decided by a majority of my fellow readers, I shall endeavor to submit as gracefully as may be.

If you will allow me a word further, I shall beg to point out what seems to me a growing evil in ornithological writings of the present time. The tendency begotten of this precise controversial spirit, is to lose sight of the main object in pursuing the barren details. One who examines a landscape with a field-glass may be able to tell you that a man in a blue flannel shirt is rubbing down the farmer's horse in that distant farmyard, but, if fascinated by the power of the glass, he continues his examinations till the waning of the day, what is his knowledge of the details worth, compared to your own appreciation of the whole?

Now it appears to me that this is just what too many of our recent writers are doing. When a man pores over the distorted skin of what was once a bird, eventually asserting that the "hallux is slightly longer than the first phalanx of the middle toe," he has stated what may be a very valuable fact in analysis. But let him beware lest, in his solicitude for the minute, he totally unfit himself for a true appreciation of the whole.

An excessive familiarity with proper scientific terms is the bane of many otherwise pleasing writers; whoever wrote of the Woodcock, "Its eye is remarkably large and handsome, but unfit to bear the glare of the sun, its full and almost *amaurotic* appearance plainly suggesting the *crepuscular* habits of the bird,"* is clearly a victim to pedantry. Not one of the later writers can compare with Audubon or Nuttall in the use of English, and more especially in a certain feeling for nature, a love of the natural for its own sweet sake, unless, indeed, I except John Burroughs. Is it then impossible that accuracy and grace shall go hand in hand? Assuredly there are shining examples to the contrary; where, for instance, in contemporary writing can we find a parallel to the passage in which Audubon tells of his joy at discovering the American Avocet upon its breeding ground? He places before us the whole scene, and describes in graphic terms and simple English, the appearance, the evolutions, and the surroundings of the birds. In short, he wrote with a spirit so loving that one cannot but admire. The science of ornithology has made

* *Vide* The Water Birds of North America, Vol. I, p. 184 (Little, Brown & Co., Boston, 1884).

wonderful strides since 'The Birds of America' appeared, and it may be argued, when the data are so full, and so many facts, then unknown, now require mention, that space forbids attention to the spiritual side of the charming study. If so, I shall claim that the admission proves my previous point, and that in spite of our advanced knowledge, our trinomials, our excessive subdivision, our flutterings from one name to its older synonym, and all the other abominations which the learning of our writers has forced upon them, they illustrate a decline in their art, and must bestir themselves to shake off the dust of museums and to draw fresh inspiration from a humbler devotion to nature, for herself.

Very respectfully,

The Acorns, Peace Dale, R. I.

R. G. HAZARD, 2D.

May 27, 1884.

[Our correspondent, we fear, fails to distinguish clearly between the *science* of ornithology and the *sentiment* of ornithology—both legitimate in their way, and not necessarily antagonistic, though not always compatible. The love of the beautiful for its own sake is praiseworthy, and to lose sight of the spiritual in nature is to miss some of the highest pleasures of which our lives are susceptible. The graceful forms of birds, their exquisite tints, the melody of their songs, the beautiful economy of their lives, appeal to our senses with a power not easy to resist, much less to ignore. Every true naturalist shares their enjoyment, as well as the school-boy, the poet, and the field-naturalist, whose real knowledge of the structure of birds, their relations to each other, to their environment, and to nature in the broader sense, rarely passes beyond the stage of admiration and enjoyment, which will ever vary in intensity with the temperament of the individual. The 'closet' or 'museum' naturalist begins his studies as an enthusiastic lover of nature—is inspired by this love to seek out her mysteries—but whose devotion to the minutiae of the problems presented blunts, perchance, his appreciation of the poetic and the sentimental. His pleasure in the objects of his study is not less than before, but is different in kind. His enthusiasm has found a new channel; his pleasure is that of discovery superimposed upon admiration and sentiment. The dry details of anatomical structure—external and internal—are pregnant with meaning, which the non-investigating 'lay' mind fails to see, or, if seeing, to interpret and appreciate. Such fundamental questions as the origin of life, the differentiation of its forms, the evolution of species, and their inter-relationships, interest him less than the peculiarities of habits or song a given species may present.

To do any piece of work we must have tools, and must also know how to use them. To mention objects, or their parts, we must have names for them, and in most cases the names have to be provided. The usual lay vocabulary is insufficient, and names must be invented, both for the objects and, to a large extent, for the parts, even if the object be merely a bird. The lay mind takes no note of the minuter structures and, therefore, has for them no designations. Yet they are the elements the scientific mind has most largely to deal with, and which afford the key to many

a difficult problem. As names must be invented, it matters little whether they be derived from the vernacular or a classical language, as in either case they would be new and unfamiliar and would have to be learned. In point of fact, however, the vernacular tongue is a poor mint for the coining of the needed terms, and recourse is naturally had to the classical languages — the languages, for many reasons, *par excellence* those of science — whose resources more readily meet the emergency. As regards the names of species of animals or plants, but a small proportion are ever recognized in any vernacular tongue, because unknown to the average layman. When discovered and made known by science, a vernacular name is often invented for them, as well as a scientific one. Yet many of the most remarkable and familiarly known animals and plants never acquire a name other than the scientific one, compounded of Latin or Greek, which the laity adopt in common with scientists, and never even dream that they are using the technical language of science. *Hippopotamus*, *rhinoceros*, and the names of many of our ornamental plants are cases in point. The scientist easily acquires familiarity with the terms of his science, even in cases where there are vernacular equivalents, and from habit of thought almost unconsciously introduces them into his conversation or writings—often, we must say, unadvisedly and perhaps indefensibly.

Now it happens—in many cases most unfortunately—that the same animal, or the same organ, or the same condition of structure, may have several names,—just as in our own vernacular we have several names for the same thing, or the same bird, or, still worse, the same name for different things, as is again unfortunately sometimes the case in scientific terminology. But in case of the latter—as we have not in the other—we have rules for determining which is the correct and proper term to be used, especially as regards the names of animals and plants, and also for the proper construction of these names. But as regards the construction of names all writers are not equally skillful, and hence the desire on the part of the philologically skillful to correct such names as have not been correctly formed. But so great has the evil of emendation itself become, that the tendency is now toward the acceptance of names as originally formed, unless they display an error of an obviously or known typographical character. So that this part of the evil is likely to eventually cure itself.

It has happened that naturalists have, unwittingly, repeatedly described and named animals that had been named before; also the same animals have been named nearly simultaneously by naturalists of different countries. As the same species can have only one name, and as the same name cannot be used for different animals (to speak, for the sake of brevity, in general terms) without creating great confusion and uncertainty in regard to what is meant, it is necessary to have a rule by which to determine which name shall so be used. This rule is *the rule of priority*, adopted by naturalists the world over.

This rule provides that the name first given to a genus or species shall be the name to which it is entitled, and by which alone it should be known, subject to the single condition that it had not been used for

another genus in the same kingdom, in the case of a generic name, or to another species in the same genus, in the case of a specific name. But a name may have gained a currency to which it is not entitled, in consequence of an earlier name having been overlooked, owing to obscurity of publication or other causes. As fixity of names is the prime desideratum in our nomenclature, we must not only have fixed rules for determining the tenability of names, but must adhere to them inflexibly, otherwise the shuffling of names would never cease.

Just at the present time 'The Auk' is bristling with these technicalities of nomenclature, which so naturally disgust the lay mind. And why? Simply because the 'closet' or 'museum' ornithologists of this country wish to settle at once, and if possible forever, as regards North American birds, these vexed questions of synonymy, in view of the proposed new A. O. U. List of North American Birds. The end in view is not the upsetting of names for the mere sake of upsetting them, or for any personal ends or ambitions, but simply and purely to secure a stable foundation for the future. We are simply repairing our tools and setting in order the great North American ornithological household.

We are quite aware that a considerable number of our readers share the 'lay view' of the case, as presented by our correspondent, and we even sympathise with them in their disgust, but beg to assure them that it is just such discussions of abstract and dry details of nomenclature that advance, in a certain necessary way, the *science* of ornithology; although nomenclature is not in itself science, but merely one of the indispensable tools of science.—J. A. A.]

NOTES AND NEWS.

SOME weeks since we received Heft I of the new quarterly journal of ornithology—'Zeitschrift für die gesammte Ornithologie'—published at Budapest, and edited by Dr. Julius von Madarász. It is large octavo in form, and the present number consists of 74 pages and two colored plates. The articles are mainly written in German, but there are also several papers in Hungarian and one in English. The matter relates mainly to Hungarian ornithology, but contains a paper of eight pages by Dr. L. Stejneger on the Wrens of the subgenus *Anorthura*, which we shall notice more fully later. Dr. E. F. von Homeyer, in a short opening article, proposes to cut the 'gordian knot' of nomenclature by the general adoption of a rule providing that specific names which have been in general use for a considerable period—say twenty years—shall not be subject to alteration; but we fear the practical difficulties of such a scheme have not been carefully weighed by the suggester of this supposed easy way out of the difficulty.

The editor, in his preface, states that the 'Zeitschrift' will be devoted especially to Hungarian ornithology, and to an exposition of the ornithological riches of the National Museum at Budapest. The colored illustrations, of which there are to be not less than two in each number, will give figures of hitherto unfigured species, even if not recently described.

—WE have received specimen pages of a work now in press entitled 'Our Birds in their Haunts,' by the Rev. J. H. Langille. The work — an octavo of about 560 pages — will be published by S. E. Cassino & Co., of Boston, and will contain a popular account of all the species of common occurrence east of the Mississippi River.

—Two numbers of a monthly 'Bulletin of Massachusetts Natural History,' published by W. A. Stearns, Amherst, Mass., have appeared. It is only to a small extent ornithological, and, judging by the opening numbers, will not take a high stand, weighed from either a literary or scientific standpoint.

—MR. S. H. Scudder has placed zoölogists under a lasting debt of gratitude by the publication of his 'Universal Index to Genera in Zoölogy,' which has just appeared. It is scarcely within the range of possibility that such a work should be faultless, or that its 80,000 names should include all the names that should be found in it. At present it is a list of the names given by Agassiz and Marschall in their 'Nomenclators,' by Mr. Scudder himself in his 'Supplemental List,' and in the 'Zoölogical Record' down to 1879. Dr. Stejneger, on a preceding page of this number of 'The Auk,' alludes pointedly to its incompleteness for ornithology. But probably no one is more keenly aware of its imperfections than the author himself, who, in the preface to his 'Supplemental List,' published in 1882, says: "That the list is far from being fully complementary, the compiler has had ample proofs since the completion of the appendix. When, indeed, such common generic names as *Homo* and *Musca* have escaped entry until now, he cannot anticipate that he has been much more successful than his predecessors." As the Smithsonian Institution, by whom the work is published, propose hereafter to issue decennial supplements to this list, and as the author appeals to zoölogists for information concerning names omitted from the 'Universal Index,' that they may be included in the contemplated supplements, we trust that, in the interest of zoölogy at large, he will meet with such hearty coöperation that the first supplement will go far toward making the 'Index' thoroughly complete. A collation of several pages of the index to generic names given in Gray's 'Hand-list of Birds,' published in 1871, with the present 'Index' shows that from 25 to 30 per cent. of even the names given by Gray (this does not include orthographical variations of the same name) do not appear in the 'Universal Index.'

—We regret to announce that the publication of the 'Quarterly Journal of the Boston Zoölogical Society' has been suspended.

— **VOLUME I** of the 'Water Birds of North America,' by Baird, Brewer, and Ridgway, has already appeared, and Volume II, completing this valuable work, will be published in September. The first volume, beginning with the Herons, carries the subject through the Herodiones, Limicole, Alectorides, and Phœnicopteri, and into the Anseres as far as the genus *Querquedula*, and contains 537 pages, 135 illustrations of heads, and 68 full-length figures. It is issued in two editions, the one with the figures plain, the other with the figures hand-colored. Little, Brown & Co., Boston, are the publishers.

— **AT** the last meeting of the National Academy of Sciences, held in Washington, April 15-18, Dr. Coues addressed the Academy in scientific session on the application of trinomial nomenclature to zoölogy, basing his remarks upon the uniform practise of American ornithologists in this matter, and arguing for the expediency of the general adoption of trinomials in zoölogy upon the definite principles already recognized and acted upon by the 'American School' of ornithologists. Dr. Coues also introduced a resolution in business meeting of the Academy, that a committee be appointed to consider the subject of zoölogical nomenclature, with reference to the establishment of a more uniform system. The resolution was seconded by Professor Gill, and referred to the Council of the Academy, whose action will be awaited with interest by all our ornithologists.

— **WE** have received from A. Bogardus & Co., New York, a panel photograph, ten inches by twelve, of the founders and officers of the A. O. U. The group as a whole is very satisfactory, most of the figures being excellent.

— **DR. Elliott Coues** sailed for England on May 24, where he will spend several months, partly for purposes of research and partly for recreation.

— **WILSON Flagg**, well-known as the genial author of 'The Birds and Seasons of New England,' 'The Field and Forest,' 'The Woods and By-Ways of New England,' etc., and a keen and appreciative observer of nature, died in Cambridge, Mass., May 5, in his eightieth year, after a long and painful illness. Mr. Flagg received his education at the Andover Phillips Academy and Harvard College, and for many years was an occasional contributor to the 'Atlantic' and other magazines, where his essays on natural history subjects, afterwards gathered in the books above-named, originally appeared.

— **EDGAR A. Small**, of Hagarstown, Md., an Associate Member of the A. O. U., died at that place April 24, 1884, in the twentieth year of his age. Mr. Small, although for some years a sufferer from spinal disease, resulting from an accident, was widely known as a young ornithologist of much promise.

— **HENRY G. Vennor**, of Montreal, died in that city June 8, 1884, at the age of 44. Mr. Vennor was an Associate Member of the A. O. U., and well-known as one of the leading ornithologists of Canada. Besides various

minor papers on the birds of Canada, he published in 1880 a work in quarto, with photographic illustrations, entitled 'Our Birds of Prey.' From 1865 to 1880 Mr. Vennor was an assistant on the Canadian Geological Survey. He also took great interest in meteorology, and through his weather predictions acquired no little celebrity as 'the weather prophet.'

—MR. J. W. Johnson, of Cleveland, Ohio, has started for Alaska to take charge of the Signal Service Station at Bristol Bay (Nushagak), and make collections of natural history for the National Museum.

—THE officers of the vessels of the Greeley Relief Expedition have been furnished by Professor Baird with colored drawings of the Knot (*Tringa canutus*), and a request to look out for the eggs of this species, which are still unknown.

—CAPT. Charles E. Bendire, U. S. A., has presented his magnificent collection of North American birds' eggs to the National Museum. Embracing as it does extensive suites of the eggs of many of the rarer species, to say nothing of the more common ones, and being especially rich as regards the birds of the Far West, it greatly surpasses any other collection of North American birds' eggs yet brought together, and in point of neatness and care of preparation is doubtless unequalled. Capt. Bendire has been for some time personally superintending their arrangement at the National Museum.

—THE Fish Commission steamer 'Albatross' has returned from her cruise among the islands of the Caribbean Sea and northern coast of South America. A small but very interesting collection of birds was made by Messrs. J. E. Benedict and W. Nye, embracing several new species, from islands not previously visited by a naturalist or collector. Two fine examples of the Guachera Bird (*Steatornis caripensis*), from Mona Island, were also secured. A report on this collection will be published in the 'Proceedings' of the National Museum.

—THE A. O. U. Committee on Migration of Birds has now over 650 observers, of which 100 are in Canada. This number is additional to the large number of light-house keepers, also engaged in the work of observation.

—AT the April meeting of the Ridgway Ornithological Club of Chicago a paper by Dr. W. J. Hoffman, of the Bureau of Ethnology, Washington, D. C., on Indian bird names, was read, and also a paper by Mr. H. K. Coale, on the migration of birds in the vicinity of Chicago in the spring of 1883. Albino specimens of Wilson's Snipe and the Cowbird, recently collected in Illinois, were exhibited by Mr. Toppman. At the meeting held June 5, the society was reorganized under its new charter as an incorporated body, and the following officers were elected for the ensuing year: President, B. T. Gault; Vice President and Treasurer, Geo. Frean Morcom; Secretary, H. K. Coale; Curator, Joseph L. Hancock; Librarian, Frank L. Rice. Mr. Coale read a paper on the Blue Mountain Parrot of Australia, exhibiting specimens of the birds and a set of eggs laid in captivity.

—THE First International Congress of Ornithologists was held in Vienna, April 7-11, under the patronage of the Crown Prince, Rudolf. Among the 130 ornithologists present were delegates from nearly all the nationalities of Europe, including a large number of ornithologists of world-wide reputation. But there were no delegates from England or the United States. The Congress organized in three sections, which held simultaneous sessions. Section I considered the subject of international bird-protection legislation. After long deliberation the section voted to recommend the adoption by all nations of (1) a law forbidding the destruction of birds otherwise than by shooting, and then only with legal permission, during the first half of the calendar year, and (2) the wholesale slaughter of birds at all times. Section II had under consideration the subject of the origin of domesticated birds, and also improvement in methods of bird-rearing, and made various recommendations in reference to these objects. Section III devoted itself to the elaboration of a scheme for the establishment of coöperative bird observation stations throughout the world. Various recommendations were adopted in regard to the details of the plan, and an International Committee was appointed to facilitate the work. This committee was constituted as follows: Russia, Dr. L. von Schrenck, Dr. G. Radde, Dr. J. A. Palmén, and Dr. Bogdanow; Austro-Hungary, Count V. von Tschusi, Dr. J. von Madarász, and Dr. Brusina; Germany, Dr. E. F. von Homeyer, Dr. A. B. Meyer, and Dr. R. Blasius; France, Dr. Oustalet and Prof. A. Milne-Edwards; Italy, Dr. H. H. Giglioli, and Prof. T. Salvadori; Switzerland, Dr. V. Fatio and Dr. Girtanner; Norway, Dr. R. Collett; Sweden, Count Thott; Denmark, Prof. C. Lütken; Belgium, Baron de Selys-Longchamps and Dr. A. Dubois; Holland, Dr. F. Pollen; Portugal, Dr. Barboza du Bocage; Greece, Dr. Krüper; Servia, Dr. Dokic; Japan, Capt. Blackiston; England, Messrs. Harvie-Brown, Cordeaux, and Kermode; Australia, Dr. E. P. Ramsay; New Zealand, Dr. W. L. Buller; British India, Dr. Anderson and Da Cunha; Java, Dr. Vordermann; Brazil, Baron Carvalho Borges; Chili, Prof. R. A. Philippi; Argentine Republic, Dr. H. Burmeister and Dr. Berg; United States of North America, Dr. C. Hart Merriam and Dr. Elliott Coues.

At the same time was held a General Ornithological Exhibition, embracing upward of 1600 entries, including a rich selection of common fowls, Ducks, Geese, Pigeons and ornamental birds, native Song-birds, exotic birds, and wading and swimming birds. There were also shown many very interesting bird-skins and stuffed birds. The exhibition also included ornithological literature. Special mention is made in the report of the Congress, of two very interesting manuscript maps, prepared by Dr. Reichenow, showing the distribution of single families, genera, and species of birds over the whole world.

Social intercourse and festivities added greatly to the enjoyment of the occasion; and the delegates separated in the hope that the next International Ornithological Congress, to be held at Luzern, Switzerland, in 1877, would prove as satisfactory as had the one just held at Vienna.